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THESIS

AN ANALYSIS OF NON-DEPARTMENT OF DEFENSE AND DEPARTMENT OF DEFENSE SPECIAL BACKGROUND INVESTIGATIVE PROCEDURES USED IN DEVELOPING SOURCES THAT INDICATE THE PRESENCE OF AN ISSUE

by

Jeffrey Joseph Lauff

JUNE 1991

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This thesis examines the differences in investigative procedures of the non-Department of Defense and Department of Defense agencies in developing sources that indicate the presence of an issue during a special background investigation. Multivariate analysis of the survey was conducted to examine these differences. The results of this analysis indicate statistically significant differences in the organizational methods used to develop sources of derogatory information which are used in determining eligibility for sensitive compartmented information. This analysis also highlights the most effective and efficient methods of conducting a special background investigation for both organizations. The recommendations address the requirement for continued analysis to further refine the special investigative process thereby yielding greater efficiency and effectiveness in the detection of issue cases.

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An Analysis of Non-Department of Defense and Department of Defense Special Background Investigative Procedures Used in Developing Sources That Indicate the Presence of an Issue

by

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Lieutenant Commander, United States Navy
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Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

This thesis examines the differences in investigative procedures of the non-Department of Defense and Department of Defense agencies in developing sources that indicate the presence of an issue during a special background investigation. Multivariate analysis of the survey was conducted to examine these differences. The results of this analysis indicate statistically significant differences in the organizational methods used to develop sources of derogatory information which are used in determining eligibility for sensitive compartmented information. This analysis also highlights the most effective and efficient methods of conducting a special background investigation for both organizations. The recommendations address the requirement for continued analysis to further refine the special investigative process thereby yielding greater efficiency and effectiveness in the detection of issue cases.

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I. INTRODUCTION

A. PURPOSE

The purpose of this thesis is to examine differences in investigative procedures of non-Department of Defense (non-DOD) and Department of Defense (DOD) agencies in developing sources that indicate the presence of an issue during a special background investigation. This is accomplished by the evaluation and analysis of the "Special Background Investigation Adjudication Survey" [Appendix A]. Sources are defined as the origin of information in the background investigation. The general categories of sources identified by Carney [Ref. 1, pg. 24] are: the subject as a source, interview sources, and record sources. When conducting an investigation into an individual's background, the sources contacted or checked may develop information considered to be derogatory. This type of information usually constitutes an "issue." The presence of an issue may result in denial of an individual's eligibility for clearance to classified information.

B. OVERVIEW

In recent years, the Department of Defense and the Deputy Under Secretary of Defense (Security Policy) have been devoting more attention to security clearance authorization and level of information access. As a result of several espionage cases, including Jonathan Pollard and the Walker family, an attempt was made to reduce the overall numbers of cleared persons. The investigative process also has become more important in identifying significant issues in the background of cleared personnel.

The level of clearance granted depends on the clearance-level requirement of the job. The first level of clearance authorization is confidential, followed by secret and top-secret. At the top-secret level, an individual can be authorized into various sensitive compartments. Authorization for access to sensitive compartmented information (SCI) requires the most intensive investigation of an individual's background. As practiced, the clearance process involves an investigative procedure that examines an individual's background and an adjudicative procedure to determine if he or she meets the qualifications for eligibility for access to classified information.

The different types of investigations, conducted in various levels of security clearances, include the following: the National Agency Check (NAC) for secret information access, the Background Investigation (BI) for top secret information access, and the Special Background Investigation (SBI) for top secret, SCI access. The investigation must be completed and adjudicated prior to authorizing access to the different levels of classified information.

Each time a new level of clearance is required, or an update of an existing clearance comes due, special agents are assigned to investigate various background areas appropriate to the level of clearance required for the individual. Background investigations involve different lengths of investigative coverage into an individual's background. At the SCI level, investigations are scoped to cover the last 15 years (or until the eighteenth birthday) and must be updated at least every five years to maintain SCI access. After the investigation, personnel security adjudicators review the case and determine the security impact of issues. An "issue" is any derogatory information that is a possible disqualification for a clearance. If issues are present, an initial recommendation is made by the adjudicator to either deny or approve clearance eligibility.

The purpose of this thesis is to examine the differences in the investigative procedures of non-DOD and DOD organizations in developing sources that indicate the presence of an issue during a SBI. This analysis should assist in improving the efficiency of the investigative process by underscoring the most significant sources of information in developing issues.

C. DEFINITION OF TERMS

Several terms are frequently used in the thesis. These terms are known to persons who work in the area of personnel security but may be unfamiliar to other readers. A glossary of these words follows:

1. Access: Authorization to acquire and use information that has been classified by one or more sources.

2. Adjudicator: An individual who is assigned the official responsibility to determine the presence or absence of an issue in a specific case and to make recommendations for denial or approval of a clearance.

3. Classified Information: Information that has been determined by official sources to be in the interest of national security and is required to be protected from unauthorized disclosure.

4. Clearance: A level of authorization to classified information; an administrative procedure by officials who determine if an individual is eligible for access to classified information.

5. Case: An investigation of an individual's background. (In this instance, the investigation has been completed and summarized by an adjudicator on the survey.)

6. Denial: Disapproving or refusing eligibility for clearance.

7. Denial Case: A case in which the adjudicator has determined that the individual is not eligible for access to a level of classified information.

8. DOD Organization: For purposes of this thesis, any case agency identifier that has been determined to belong to the Army, Navy (including Marine Corps), Air Force, or the Defense Intelligence Agency.

9. Issue: One of twelve areas in which significant or adverse information has been discovered. These areas are: alcohol, drug abuse, financial, emotional/mental, criminal, sexual, loyalty, foreign connections, foreign preferences, falsification, security incidents, and other.

10. Issue Case: A case in which the adjudicator has determined that an issue exists and that closer

examination of the case is required before clearance eligibility can be authorized or denied.

11. Non-DOD Organization: For purposes of this thesis, any case agency identifier that has been determined to belong to federal sensitive compartment information access, approval authorities other than the DOD.
12. Non-Issue Case: A case in which the adjudicator has determined that no significant or adverse information exists.
13. Sensitive Compartmented Information (SCI): The type of information that requires not only a top-secret clearance but also authorization for access into a specific area or compartment considered highly sensitive.
14. Source: The investigative source of information (by individual questionnaire, interviews, or record checks) used in the clearance adjudication process in which the investigator located or determined the presence or absence of an issue.

D. BACKGROUND

The requirement for the federal government to maintain security of its sensitive information has been, and will continue to be, a high priority. The maintenance of an aggressive security program ensures that ethical and moral individuals are in sensitive positions. In a time of decreasing resources, it is necessary to maintain high security but with fewer resources. Thus, it is important to ensure that the most effective methodology is utilized in developing a security-relevant background investigation. [Ref. 5, pg.1]

The Director of Central Intelligence (DCI) tasked a permanent Personnel Security Working Group (PWSG) to examine the scoping requirements of DCID 1-14 through a study of completed investigations. DCID 1-14 specifies the minimum investigative requirements for access to Sensitive Compartmented Information. [Ref. 1, pg. 1]

As previously noted, an individual must undergo a special background investigation (SBI) for SCI access. The first step of this process is to complete a personnel security questionnaire. The questionnaire provides basic information concerning an applicant's background for up to 15 years. This voluntary information includes previous residences, prior employment, education, credit references, criminal history, travel experiences, and medical and family information.

The next step of the SBI investigative process involves a record check of both local and national law enforcement agencies both on a local and a national basis. Additionally, the case investigators review an individual's financial history as well as pertinent medical records. At this point, friends, family, and employers are interviewed to confirm consistency of the information developed in the case. The investigators document contradictory and derogatory information and inquire further into the specific issues that may have developed in the case.

Once the investigative process has been completed, adjudicators review the information. They make a decision whether to grant or deny eligibility for access to SCI. Their decision is based on security regulation guidelines [Ref. 4, pg. 2-3]. These regulations authorize a certain degree of discretion, recognizing there is some subjectivity in the evaluation of the issues in the case. These biases may affect the results of the analysis. Various assumptions regarding these potential biases are offered below.

The entire process of investigation for SCI access demands much time and involvement by the investigators and adjudicators. An initial clearance usually requires over six months. Periodic reviews require approximately six months, and they occur every fifth year after the initial granting of an SCI clearance.

This study used a sample of SBI case summaries as provided by the PSWG. A total of 7,232 case summaries were prepared by the adjudicators at 14,federal agencies adjudicating for SCI access between June 1989 and July 1990. These surveys consisted of adjudicators' evaluation on the importance of source information in reaching a decision [Ref. 1, pg. i]. From the survey sample, a subset of 6,797 surveys were provided by PERSEREC for analysis in this study. Initial analysis of the sample was conducted by PERSEREC and this study will be a secondary analysis of a subset of the data augmenting the initial study. The purpose of this analysis is to compare the investigative procedures of non-DOD investigative agencies versus the Defense Investigative

Service (DIS) in developing information important to the adjudicator's decision. Specifically, the analysis is directed at sources which are considered to be productive in a DIS investigation as compared to the sources considered to be productive in a non-DOD investigation. Since some non-DOD investigations involve polygraph interviews, it is expected there will be differences based on both the polygraph and the adjudicator's interpretation of the polygraph information. It is impossible to untangle these influences therefore this analysis is a global test of the organizational difference in the SCI processes.

E. THE RESEARCH QUESTION

The investigative process develops sources of information, that are vital to determining the presence of derogatory (or issue) information. In the PSWG survey, the value of these sources of information was indicated for each case on the survey form prepared by the adjudicators. In analyzing the survey responses, one may expect to find certain differences in populations of DOD and non-DOD security applicants and in the procedures used to develop sources and detect the presence of an issue. For example, are there differences in issue and denial rates between non-DOD and DOD organizations? Second, if there are differences, can they be attributed to dissimilar investigative procedures used by these organizations or to population differences within the organization? Third, is an individual's gender significant in the development of an issue? Finally, utilizing multivariate analysis methods, are certain sources more significant than other sources in identifying derogatory information on the individual?

F. SCOPE, LIMITATIONS AND ASSUMPTIONS

This study utilizes frequency analysis of the survey responses to determine if differences exist between non-DOD and DOD organizations in developing issues. Subsequent analysis incorporate multivariate methods to compare the DOD sample with the non-DOD sample concerning to the most effective sources for developing issues.

A limiting factor in this study is the sample size and the accuracy of the information contained within the survey. Presently, the sample contains 6,797 observations with 3,808 non-DOD observations and 2,979 DOD observations. Issue categories with small numbers might have a bias; therefore, careful consideration is given to small subsets. Additionally, the non-DOD and DOD samples are assumed to be representative and to accurately reflect the characteristics of their respective organizations.

Prior to conducting the analysis, some basic assumptions regarding the sample were made. These assumptions were made on the basis of the sample size and method of sampling, which is assumed to be unbiased. The assumptions were:

1. The survey represents a true sample of the population.
2. The surveys were accurately completed by the adjudicators.
3. A case without issues that has missing data assumes approval of SCI adjudication.
4. ultiple issue cases are assumed to have the most important or identifying issue as the primary issue. Multiple issue cases, while important for overall adjudication consideration, will not be analyzed.

G. ORGANIZATION OF STUDY

A literature review is presented in Chapter II of the thesis. Previous published studies of related data sets are examined. A description of the survey follows the literature review.

Chapter III describes the frequency analysis and logistic regression methodology used in analyzing the survey. Base case analysis and Chow tests are defined for use in the analysis.

In Chapter IV, the results of the frequency analysis and two different regression analyses are presented. The differences in the investigative procedures used by the two organizations are discussed.

Chapter V provides conclusions and recommendations based upon the study results.

II. LITERATURE REVIEW AND SURVEY DESCRIPTION

A. LITERATURE REVIEW

Much of the information and studies concerning personnel security investigations is initiated and analyzed by the Defense Personnel Security Research and Education Center (PERSEREC) in Monterey, California. PERSEREC's mission states:

> PERSEREC is a research and educational facility whose mission is to perform security research and analysis for DOD, and to furnish education assistance and advice on personnel security research to DOD components. [Ref. 2, forward]

A study conducted by DCI in 1980 (Investigative Standards Working Group, DCI, Security Committee, April 1980) analyzed a sample of over 5,000 BI cases that were adjudicated during the October 1978 to January 1979 time period. This analysis provided preliminary insight into actual case statistics by the demographic characteristics of the BI population, types of investigations, analysis of the source of the detected issue, and eleven categories of issues. It identified drug or alcohol abuse as the most frequent issue (26.1 percent), followed by criminal behavior (17.3 percent) and irresponsibility (13.8 percent). In considering sources as a factor of detecting issues, the study found that local agency checks provided issues 9.4 percent of the time; subject admission provided issues 7.2 percent of the time; and employment interviews and developed sources provided issues 5 percent of the time. Employment record checks and polygraphs provided issues 4 percent of the time. Other sources such as credit, residence, and education provided issues less than 3 percent of the time.

Another study entitled "Issues Developed in Background Investigations Conducted by Defense Investigative Service" (Lewis, Koucheravy, and Carney, PER-TR-90-004, PERSEREC, December 1990), ranked the frequency and percentage of issues in 881 background and 812 SBI cases for DOD military, civilian and industrial employees. This study gave insight into the most relevant issues that evolve during a clearance investigation. The total number of issues were grouped into eleven categories and ranked in order of frequency of occurrence. Drug abuse and financial issues occurred most frequently (37 percent of the time), followed by criminal, mental, alcohol, and falsification issues which were detected in 15 to 24 percent of the cases. This information gave insight into the expected issue occurrence rates to be developed in Chapter IV.

A third study, "Analysis of Issue Types and Clearance Adjudication" (Wiskoff, and Fitz, PER-TR-91-006, PERSEREC, December 1990) analyzed 10,000 issue cases that occurred over a two-year period beginning in 1988. A non-random selection bias was acknowledged, but the authors were confident that the size of the sample would overcome the bias. Wiskoff et al., (1990) addressed the frequency of eleven category issues as they applied to the DOD military, civilian, and industrial communities. In the analysis of the issue rates for the military, financial and drug abuse issues occurred most frequently in about 40 percent of the sample. This was followed by criminal (31 percent), alcohol (21 percent), falsification (17 percent), and emotional/mental (15 percent) issues. These figures include all issues encountered and therefore represent multiple instances of occurrence. A further analysis explored the issue category rates for gender. The results indicate that men have a higher occurrence of alcohol and criminal issues detected and that women have a higher occurrence of emotional/mental and sexual issues detected during the SBI.

Another study of personnel security investigations was conducted by the DCI in 1990 and analyzed by PERSEREC (Evaluation of the Productivity of Special Background Investigation, Report to Personnel Security Working Group, PERSEREC, 1991). This study utilized summaries of SBIs conducted during the period of June 1989 to July 1990. It includes the same data analyzed in this thesis.

In the PERSEREC study, a demographic analysis of the military, federal civilians, and industrial contractors was conducted. The authors concluded that the military, which comprised 35 percent of the sample, had 32 percent of the issue cases and 25 percent of the denial cases. At the same time, federal civilians, which comprised 50 percent of the sample, had 49 percent of the issue cases and 50 percent of the denial cases. Contractor personnel accounted for 16 percent of the sample and had only 18 percent of the issue cases but 25 percent of the denial cases. It was also found that women comprised 35 percent of the sample, and had 33 percent of the issue cases, and 38 percent of the denial cases. Additionally, women were associated with drug, emotional/mental and foreign connection issues. Men, on the other hand, had high percentages of alcohol and criminal issues associated with their group. However, the authors did find that there were no significant differences between the genders. [Ref 1, pg. 5]

Another analysis was conducted concerning the sources of derogatory information in the issue cases and the proportion of sources contacted that provided derogatory information. This analysis was conducted on the entire sample for subject sources, interview sources, and record sources for any contact providing derogatory information. Subject sources, which are identified by the personnel security questionnaire, initial interview, follow-up interview and polygraph interview, resulted in the discovery of derogatory information on the average of 40 percent of the time. Interview sources, which are listed character references, developed character references, residence, medical, employment, education, ex-spouse, and relative interviews, provided only 4 to 24 percent detection of derogatory information. Record sources (such as local agency, medical, financial, employment, educational, and residential record checks) provided from 4 to 30 percent detection of derogatory information. It must be noted that this analysis was bivariate in its nature in that the impact of only one variable was measured against another. The area of research for this thesis will augment the information presented in the PERSEREC report by providing a multivariate analysis of the sample.

B. SURVEY DESCRIPTION

The survey used by the PSWG was to provide information to the DCI to assist in evaluating the sources of information used by adjudicators in determining eligibility for SCI access. These surveys were to be recorded on a machine-scanable case summary form after initial eligibility determination had been made [Appendix A, pg. 1]. Personnel security adjudicators at the 14 different Federal agencies prepared forms for 7,232 SBI cases in which an adjudication had been made. The survey [Appendix A] contained the basic instructions for the adjudicators. The survey form itself consisted of two basic parts: a demographic section and an issue section.

The demographic section was divided into eleven categories. The first contained the case number which was for use by the adjudicator only and of no value to the statistical analysis. The second category under demographics was the agency identifier, coded as either a DOD organization or a non-DOD organization. The third area was the individual's year of birth, followed by gender category. The fifth area was marital status (single, married, divorced, separated, or widowed). The next category was education (Non-high school, high school, some college, college degree, and post-graduate education). The seventh category was the job category (professional, technical, clerical, service, and other). The eighth category was the type of employee (military, federal civilian, and contractor). The ninth and tenth categories specified the type of previous investigation (ENTNAC, NAC, BI or SBI) and the year of the investigation. The eleventh category indicated the purpose of the present investigation followed by the initial adjudication recommendation of either "granted" or "denied."

The issue section was divided into three identical sub-sections, since adjudicators could specify up to three different issues in a specific case. Each issue section contained the category of issue and source rating for the subject, interview, and record sources. The length of coverage of the rating section is not analyzed here and is omitted from the discussion of the survey.

The first part of the issue section was the general category in which the specific issue was defined. These categories are alcohol, drug/substance use, financial, emotional/mental, criminal conduct, sexual misconduct, loyalty, foreign connections, foreign preferences, falsification, security incidents, and "other" issues which might be considered derogatory and possibly a reason for denial of clearance. The year of the issue occurrence was the second category, and the third category was for an issue that had been detected in a previous investigation.

The source rating section had 5 possible ratings from "very unfavorable" to "very favorable" in the adjudication process, and each category in this portion of the survey was evaluated by a numerical scale. Specifically, each category was evaluated by discrete values in which -2 was adverse in the adjudication process and considered very important in determining the presence of an issue. The next value was -1, which was adverse and considered moderately important in determining the presence of an issue. The value of 0 was neither negative or positive in determining the presence of an issue. The values of +1 and +2 were considered positive factors and moderate to very important in items favorable in making an adjudication.

The first section under source ratings was the personal interview. It contained an evaluation of the personnel security questionnaire responses made by the subject of the investigation. The next section was the subject initial interview section in which personal interviews were conducted and evaluated. The follow-up interview was an evaluated second interview, conducted after an issue had been developed. This was followed by the results and evaluation of another interview combined with a polygraph, if required.

The interviews of listed sources consist of evaluated interviews of individuals identified by the person under investigation as character references. The interviews of developed sources are evaluated interviews of sources uncovered during the investigation process. Residence interviews were derived from information provided by neighbors and roommates while medical interviews were derived from medical doctors, nurses, and other health care providers. Employment interviews are about the working habits of the individual and come from employers and co-workers. Education interviews concern the individual's education behavior and provided by administrators, instructors, and class-mates. Ex-spouse and relative interviews gather additional information about the individual's behavior.

Records on the individual are also reviewed for information and possible sources of issues. A local agency check reviewed police and court records. A medical records check is used to ascertain the medical condition of the individual. A financial records check examines credit reports, bankruptcy records, or other existing financial records. An employment records check looked at the individual's employment history, including verification of employment or reprimands in the individual's employment history. Education records check are reviewed to verify educational history. Residence records check provide information on the individual's residence history, including landlord records or utility records.

Should a second or third issue be encountered during the investigative process, another issue section would be completed. These additional sections were reserved for the second- and third-most significant issue developed in the investigation.

The data analyzed for the thesis were received in a computerized format from PERSEREC along with the survey questionnaire and the instructions for completing the survey. The data were in a flat file format in which the responses were coded either one or zero. Each particular question related to a column or columns and each survey corresponded to a row. The total file width was 482 columns, and the survey had 6,797 responses. (Permission to analyze the entire sample of 7,232 was not received, and this reduced the data set by 435 cases.)

Data reconfiguration for the Naval Postgraduate School computer (AMDAHL 5990-500) Multiple Virtual System (MVS) utilization included storage into the mass storage system for Statistical Analysis System (SAS) program use. SAS programs were the primary tool used in analyzing the data. Diagrams published in this thesis were created by Harvard Graphics but the numerical values were derived in SAS programs.

Table I identifies the variables analyzed (derived from SAS) and gives the width, length, and comments about each variable. The variables relate to specific questions in the survey. The "comments" provide an abbreviated reference to the appropriate questions on the survey. The "width" is the type of response for each question (as discussed in the survey description and amplified by the comments concerning the different categories of responses). The "length" is the total number of records considered in the overall data set for each question.

The list in Table I does not contain the length of coverage for the interviews or the record checks. Secondary and tertiary issues from part two are not used in the analysis of preliminary issues and this analysis.

In various instances, certain values of some individual variables were intentionally or accidentally omitted. These missing values individually did not have a significant impact on the analysis; but when the variables were combined, some problems were encountered. The first instance of missing values was observed with the case number which was not pertinent to the analysis. The second area deleted from the data was the agency identifier for agencies not affiliated with DOD. The agency identifier was given only for DOD organizations, and the remaining agency identifiers were coded as missing values. Again, the values are missing to prevent

TABLE I. VARIABLE IDENTIFICATION

Variable	Width	Length	Comments
Agency	2	6,797	Agency Identifier
DOB_YY	2	6,797	Year of Birth (19_ _)
Gender	1	6,797	Sex of Individual
Marital	1	6,797	Marital Status (5 Cat.)
Educatn	1	6,797	Education (6 Cat.)
JOB_CAT	1	6,797	Job Categories (5)
T_EMPLOY	1	6,797	Employment type (3)
P_INVEST	1	6,797	Prev. Invest. type
YYP_INVS	2	6,797	Prior Invest. Yr.
Purpose	1	6,797	Purpose of Investigation
IN_ADJRC	1	6,797	Initial Adjudication Recommendation
GEN_CAT	2	6,797	Issue Categories (12)
YY_AG01-13	1	6,797	Yr. of Issue Occurrence
Prvissue	1	6,797	Issue in Prev. Invest.
PSQIMP	1	6,797	Pers. Sec. Questionnaire
	INTERVIEWS		
INTVW1A	5	6,797	Initial Subj. Interview
INTVW1B	5	6,797	Follow-up Interview
INTVWIC	5	6,797	Polygraph Results
INTVW1_2	5	6,797	Listed sources
INTVW1_3	5	6,797	Developed sources
INTVW1_4	5	6,797	Residence sources
INTVW1_5	5	6,797	Medical sources
INTVW1_6	5	6,797	Employment sources
INTVW1_7	5	6,797	Education sources
INTVW1_8	5	6,797	Ex-Spouse sources
INTVW1_9	5	6,797	Relative sources
	RECORD CHECKS		
RCCK1_1	5	6,797	Local Agency Checks
RCCK1_2	5	6,797	Medical
RCCK1_3	5	6,797	Financial
RCCK1_4	5	6,797	Employment
RCCK1_5	5	6,797	Education
RCCK1_6	5	6,797	Residence

identification of the agency and these values were recoded to indicate non-DOD.

A third area of large missing values was found in part two of the survey. An assumption is made that since values are complete in part one of the survey, missing values in part two would indicate the lack of an issue being found and, therefore, clearance being granted. To maintain continuity throughout the survey, these responses were assumed to be favorable without an issue and coded as zero (not positive or negative) responses.

Missing values in part one of the survey, such as previous investigations and year of previous investigation, indicate the individual not having a prior clearance.

All other missing values in the survey were deleted due to the inexplicability of the non-responses. An example of this is missing values in gender (either male or female was the possible response), education, marital status, job category, type of employment, and initial adjudication. Each category was missing, at most, 88 observations. Although deletion of the missing values from the 6,797 cases did not degrade the overall sample, it did have an impact on the logistic regression analysis, which cannot be used on data with missing values. This can be attributed to the fact that the cases contained missing values in many categories instead of one or two specific categories.

While the data were distributed relatively equally, an obvious inequality in the sample was noted. The representation of the military service branches failed to have a significant number of Air Force surveys. The Army had 1,458 observation points, and the Navy had 1,007 observation points. However, the Air Force had only 170 surveys completed within this sample. The low response rate of the Air Force affects a thorough analysis and treatment of this branch of the military. It was therefore decided to combine the service branches and treat the military (DOD) as a totality to avoid the affects of sampling bias.

III. METHODOLOGY

A. OVERVIEW

The overall objective of this thesis is to use current multivariate analysis techniques to develop a model for issue case analysis and source effectiveness. Data for the thesis were obtained exclusively from the 1990 SBI survey of adjudicators. The entire sample (excluding a small number of cases, as noted) was used for the analysis.

The initial approach of this study was to code the variables described in Figure 1 so that an initial frequency analysis of the general sample could be performed. The initial frequency analysis of the general sample was conducted to obtain basic demographic and issue overviews. Once the basic information was obtained, a more complete analysis in terms of frequency and logistic regression analysis could be performed.

Previous theoretical treatment of these types of studies has used frequency analysis. Another form of analysis which considers the interaction of all variables at the same time is logistic regression. To optimize this technique requires fully completed forms and a lack of missing responses to increase the number of usable records and improve the analysis. While the survey considers both demographic and issue information, various sections, having missing responses or "missing values" in their respective categories, may not be useful in determining the frequency of occurrence or allow for full use of logistic regression techniques on the sample.

This study deals specifically with the differences in investigative procedures of non-DOD agencies and DOD agencies in developing sources that indicated the presence of an issue. These differences and similarities in the analytical results will yield insight to the most effective methods for investigating a case for DOD and non-DOD investigators. A comparison of the two organizations in terms of frequency and logistic regression analysis is conducted.

B. FREQUENCY METHOD

Initial analyses of the data were conducted to compare the size of non-DOD and DOD organizations. The initial frequency analysis is important in the development of the logistic regression model. Since the preliminary analysis sets the foundation for the logistic model, an extensive comparative examination must be conducted.

The demographics of the two organizations were analyzed using non-issue, issue, and denial as the basis for determining frequencies. A comparison of the results of these frequencies was conducted to determine if differences exist.

Frequency analyses of the various issues were next conducted for comparative analysis between the two groups and gender. This depicts the differences of issue determination within the group.

A third segment of frequency analysis is conducted on DOD for officers and enlisted personnel. This analysis displays the non-issue, issue, and denial cases between job categories in the DOD.

C. LOGISTIC REGRESSION METHOD

1. Model Selection

The investigative process results determines whether there is an issue. In the instance of multiple issues, a primary issue was determined to be one in which the most important issue was placed as the preliminary issue.

Using multivariate methods, a linear regression would be able to measure the effects of several variables and their interaction upon a continuous dependent variable. The equation for the linear regression is $Y = B_1 + B_2X$ where Y is the expected value of the equation, B_1 is the intercept of the line, and B_2X is the slope of the line. However, the dependent variable in the adjudicator's decision is limited to the presence or absence of an issue which is defined as a dichotomous variable. Since the linear regression measures the effects of the independent variables on the dependent variable in a continuous manner, instead of a dichotomous manner, it is rejected as the model of choice for use in the analysis.

The adjudicator may also be viewed as having a probability of making a decision for or against the case having an issue. The probability in this decision process can be viewed as a continuous probability which can be calculated by regression analysis.

This argues in favor of a form of a linear probability model distribution. This regression model results in a probability of a choice for or against an issue being present. This probability is defined as a zero to one-hundred percent chance of the event occurring. The equation for this model is $P_i = B^1 + B_2X$ where P_i is the probability of the event occurring. Although this model appears to yield results more closely paralleling the decision process, the result is a continuous probability and not a dichotomous choice.

The adjudicator, in actuality, makes the choice between issue and non-issue cases by comparing significant investigation results with the overall investigation results and the current regulations. Ultimately, the adjudicator is faced with a dichotomous choice of assigning the case as having an issue or not having an issue. This suggests the use of a logistic model.

The probability of a case having an issue is defined as P_i, and the probability of a case not having an issue is defined as $1-P_i$. Therefore, the ratio of the probability of a case having an issue to the probability of a case not having an issue $(P_i/1-P_i)$ is defined a the "odds ratio." The probability "P_i" in the linear probability regression model (LPM) is equal to $E\ (Y = 1/X_i) = B_1 + B_2X_i$, where E is the expected value of (Y), Y is a case having an issue, X is total number of cases, B_1 is the intercept, and B_2X_i is the slope. By taking the natural logarithm e of the above equation, the result is:

$$P_i = 1 / 1 + e^{-(B1 + B2X_i)}$$

and the second equation:

$$1-P_i = e^{-(B1 + B2Xi)} / 1 + e^{-(B1 + B2X_i)}.$$

Letting $(B_1 + B_2X_i)$ equal Z_i and solving the equations for the "odds ratio," the result is $P_i/1-P_i = e^{Z_i}$. Taking the natural log of the odds ratio, the following equation is derived:

$L_i = ln\ (P_i\ /\ 1-P_i) = Z_i = (B_1 + B_2X_i)$. [Ref. 3, pp. 481-4]

This equation is the basis of the logistic regression model, hereafter called simply the "Logit" model. This model, which is log-linear in its form, has the following features:

1. As P goes from 0 to 1 (i.e., as Z varies from *-infinity* to *+infinity*), the logit L goes from *-infinity* to *+infinity*. That is, although the probabilities (of necessity) lie between 0 and 1, the logits are not so bounded.
2. Although L is linear in X, the probabilities themselves are not. That is in contrast with the LPM model.
3. The interpretation of the logit model is as follows: B_2, the slope, measures the change in L for unit change in X. The intercept B_1 is the value of the log-odds ratio. (in this instance having an issue without any cases). Like most interpretations of intercepts, this interpretation

> may not have any physical meaning. [Ref.3, pp. 482-3]

2. Dependent Variable Selection

The dependent variable to be analyzed was the presence of an issue, "Issue," that was coded as a dichotomous choice variable. If a general category issue was present, the variable was coded as 1; if a general category issue was not present, the variable was coded as 0.

Two models were developed to analyze the DOD organization and the non-DOD organization. The dependent variable was evaluated for both the DOD organization and the non-DOD organization. The DOD organization consisted of the Army, Navy, Air Force and the Defense Intelligence Agency. The non-DOD organization consisted of the other federal agencies in the PSWG study. The non-DOD agencies were received for analysis as missing values and coded as non-DOD.

3. Independent Variable Selection

As a result of the literature review described in the previous section, it was determined to conduct the initial logit analysis for the two organizations. In an attempt to define pertinent variables, a review of the significant factors in previous frequency analyses was conducted. Several variables from part one of the survey were unsuitable for use due to the frequency of the missing values on fully completed forms. These variables may contribute to higher significance in future attempts but were unable to be estimated in the logit equation with the given sample.

Selection of Part 2 variables for inclusion as independent variables in the logit model consisted of:

Part 2 subsection:
D. PSQ variable
E. Interviews
  1. Subject
    a. Initial
    b. Follow-up
    c. Polygraph
  2. Listed
  3. Developed
  4. Residence
  5. Medical
  6. Employment
  7. Education
  9. Relatives
F. Record Checks
  1. LAC
  2. Medical
  3. Finances
  4. Employment
  5. Education
  6. Residence

Analysis of Part 1 section variables (except the agency variable that was the basis for the two group analyses) in the logit model were not included due to the frequency of missing values in differing cases. These variables could not be coded for utilization in the logit analysis. It was also realized that the record check categories for NAC, Spouse NAC, and Relative NAC have missing values, and bias the sample, since the results can only be negative or neutral; therefore they were not included. Interviews of an ex-spouse were deleted from analysis due to their extremely limited dispersion and infrequency of observation.

IV. RESULTS AND ANALYSIS

A. OVERVIEW

This thesis explores the differences in developing sources that indicate the presence of an issue between DOD and non-DOD organizations. These differences are examined by first analyzing the frequency of occurrence of various demographic factors in the issue cases. Next, a frequency analysis of the issue categories is conducted. Subsequent analysis uses the logit regression methodology to examine which sources are most likely to provide derogatory information.

Results of this study provide information about which sources are most likely to provide derogatory information. With this information, the investigative process can be focused on sources which offer higher frequencies of issue cases.

B. FREQUENCY ANALYSIS

The data were broken into two specific sections as discussed earlier. The first section was the DOD organization that contained the Army, Navy, Air Force, and the Defense Intelligence Agency. The second section was all other federal agencies. The initial breakdown is depicted in Figure 1.

As depicted in Figure 1, the relative distribution of the two groups are approximately the same. Non-DOD cases were 56

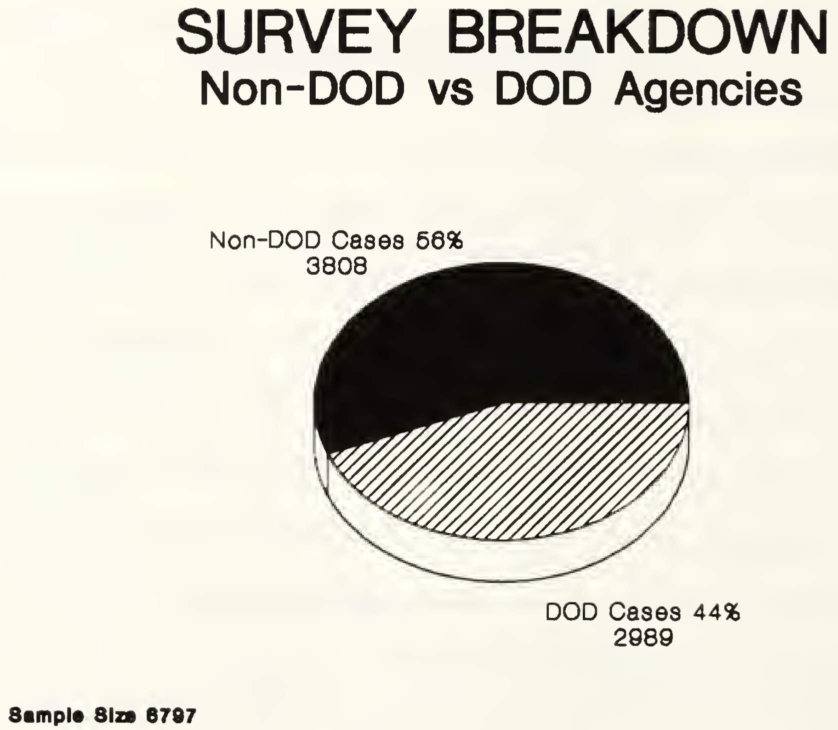
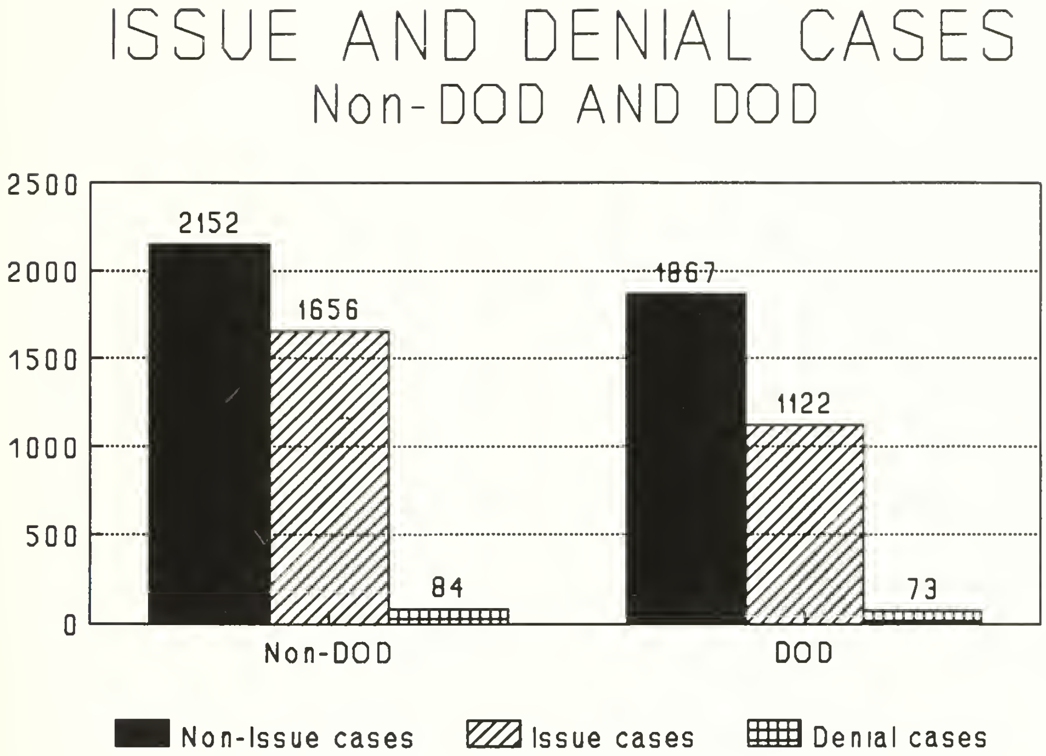


Figure 1. **Organization Analysis**
Source: 1990 Survey of Adjudicators

percent of the total sample of 6,797 cases. DOD cases comprised the remaining 44 percent. These percentages contain large enough samples to give an accurate presentation of the data to be analyzed. Provided the cases were randomly selected, it is assumed that there is no bias due to the overall size of the sample and the sizes of the sub-samples.

The next analysis compared the issue cases developed in the non-DOD sample with those developed in the DOD sample. The results of the comparisons are displayed in Figure 2.



Non-DOD cases 3808
DOD cases 2989

Figure 2. Organization Issue and Denial Cases for Non-DOD and DOD
Source: 1990 Survey of Adjudicators

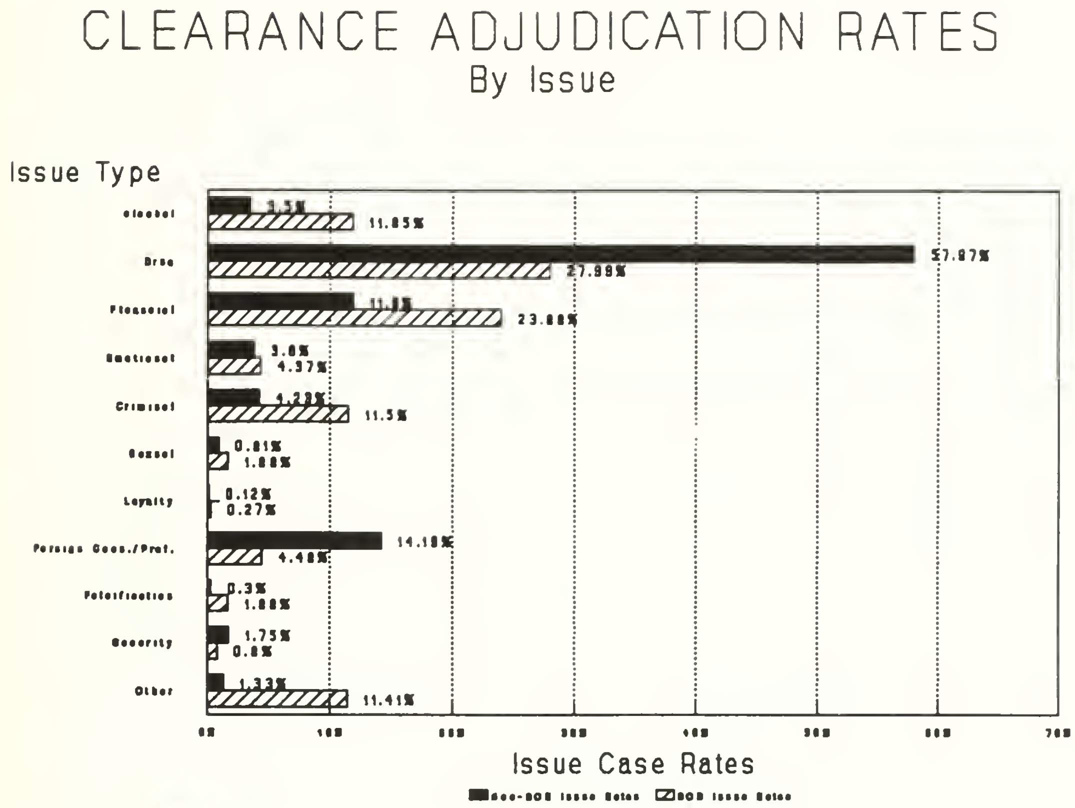
As seen in Figure 2, even though there is a small difference between the two groups in developed issue cases, the groups are relatively similar. The proportion of issue cases for the non-DOD sample was 43 percent while the proportion of issue cases for the DOD sample was 38 percent. The 2 percent variation between the two samples and the sample mean is an indicator that the values are normally distributed and similar to the overall sample as well as to each other.

This provides for further grounds to continue with a comparative analysis of the two groups.

To confirm the similarities of the two groups, a comparison of the denial cases was analyzed. The overall denial rate for non-DOD cases was 2.2 percent, or 4.3 percent of the non-DOD, issue cases. The overall denial rate for DOD cases was 2.4 percent or 6.5 percent of the DOD, issue cases. While these denial rates are similar, it begins to show there are some slight differences regarding the issue and denial rates occurring in DOD when compared to the non-DOD sample.

The general category issues were next examined. Figure 3 illustrates the specific case numbers for each issue shown as a percentage of the total issue cases for each organization. Figure 3 was constructed as percentages to standardize the values for comparative purposes. A total of 1,656 non-DOD cases were evaluated as having a significant issue, compared with 1,122 cases for DOD. The occurrence of each issue by organization was divided by the total number of the organization cases. One category, foreign preferences, is not considered by the DOD organization and therefore this issue was combined with foreign connection issues. Foreign preferences and foreign connections consist of only one issue for both organizations.

In comparing the frequencies of the two organizations from Figure 3, the differences become evident. Issues from the alcohol, financial, criminal and "other" categories occur at



Total Non-DOD Issues 1656
Total DOD Issues 1122

Figure 3. **Clearance Adjudication Rates**
Source: 1990 Survey of Adjudicators

least twice as often in the DOD organization as in the non-DOD organization. In contrast, foreign connections/preferences and drug issues occur at a greater rate for non-DOD. Part of the large difference in the drug issue category might be explained by the continuous drug education training and testing experienced by DOD personnel or by the way in which information is gathered in the non-DOD organization (which relies heavily on the use of polygraphs and may generate more drug related admissions). The other issue categories are relatively similar for each organization. It should be noted that any frequency less than 1 percent had approximately less than 15 issue cases reported for that category.

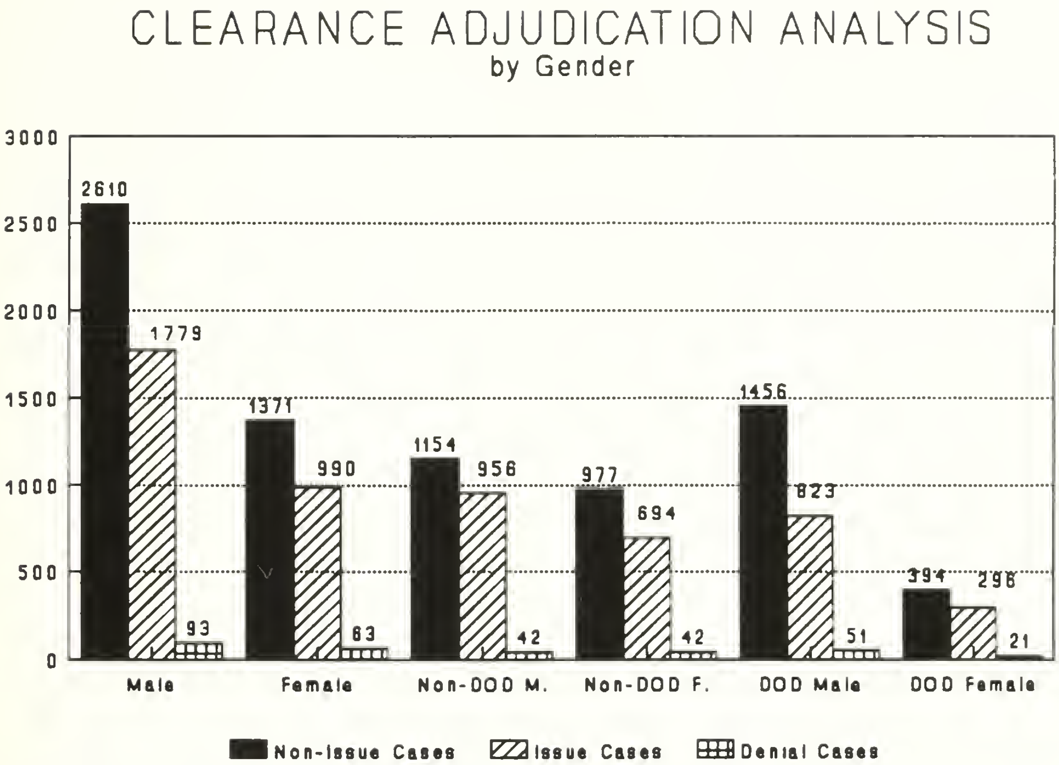
An analysis of the differences between genders was considered in comparing the two organizations for other demographic differences. A breakdown of case distribution for men and women by organization is presented in Figure 4. This diagram displays the sample non-issue, issue, and denial cases for each organization as it relates to gender.

From the issue and denial case numbers presented in Figure 4, the adjudication rates are calculated and displayed in Table II. They are calculated by dividing the number of issue (or denial) cases of the gender group by the total number of cases for the total gender group.

TABLE II. ISSUE AND DENIAL FREQUENCIES BY GENDER

Organization	Issue rate		Denial rate	
	Male	Female	Male	Female
DOD	36.2%	42.9%	2.2%	3.0%
Non-DOD	45.3%	41.5%	2.0%	2.5%
Total Sample	40.5%	42.9%	2.1%	2.7%

The issue rate for men in the non-DOD organization is approximately 9 percent greater than the rate for those in DOD.



Total Male Cases 4389; Female Cases 2361
Non-DOD Male 2110; Non-DOD Female 1671
DOD Male 2279; DOD Female 690

Figure 4. Clearance Adjudication Analysis by Gender and Organization.
Source: 1990 Survey of Adjudicators

The issue rate for women is within 1.5 percent of each organization's mean. This indicates there is just a minor difference in the identification of issues for women between the organizations.

The issue rate difference between men and women apparently depends on the organization. Women in the DOD have a 6 percent higher issue rate and those in non-DOD have a 4 percent lower issue rate, when compared to their respective male counterparts.

The denial rate for men is within 0.2 percent of each organization mean indicating no difference. The denial rate for women in all cases is at least 0.5 percent higher than for men. While this percentage is small, it indicates that there are minor differences associated with the denial rates and gender.

A closer inspection of the non-DOD, gender related issues is shown in Figure 5.

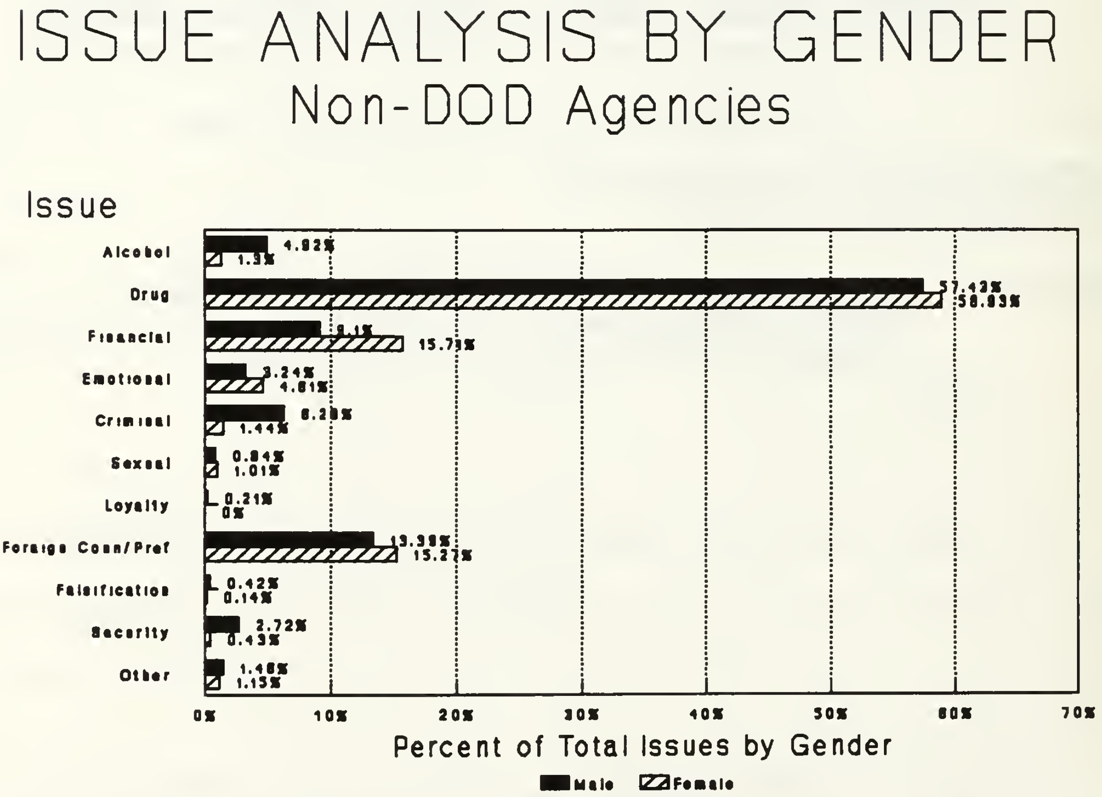


Figure 5. **Issue Analysis by Gender for Non-DOD Organization Source: 1990 Survey of Adjudicators**

As seen in Figure 5, men have a higher incidence of alcohol and criminal issues, while women have a higher incidence of financial issues, in the non-DOD organization. Both men and women in the non-DOD organization have a high rate of drug issues. The issues of financial and foreign connection/preferences account for the other significant issue categories and are relatively high for men and women alike.

In contrast to the non-DOD organization, the rates of issue identification by gender for DOD fall into five major categories and several minor ones. Figure 6 depicts the gender/issue category analysis for the DOD organization.

Drug issues for the DOD organization are still prevalent, but they only account for approximately 27 percent of all issues. Financial issues are also important here, accounting for approximately 24 percent of all identified issues.

Alcohol, criminal and "other" issues account for over 30 percent of the total issues detected. Alcohol and criminal issues are greater for the male population and occur at a higher rate than for non-DOD issues (Figure 5,) but appear with the same pattern of issues as for the non-DOD males. Women have a higher incidence than men of financial, emotional/mental, and sexual-related issues in the DOD organization. In the DOD organization, female emotional/mental and sexual-related issues occur at a higher rate than in the non-DOD organization by at least 4 percent.

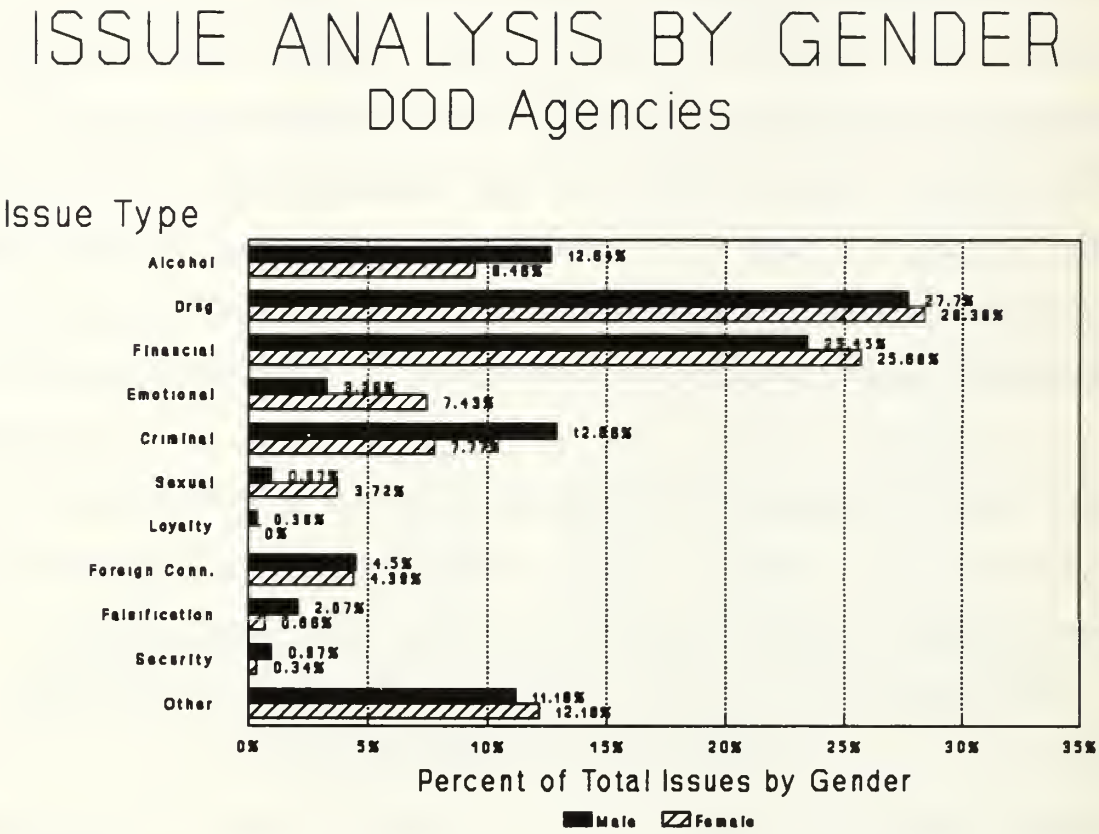


Figure 6. **Issue Analysis by Gender for DOD**
Source: 1990 Survey of Adjudicators

Two areas of importance in the DOD organization are the officer and enlisted issue/denial rates. This information provides additional demographic insight into the characteristics of the DOD organization.

Figure 7 depicts the non-issue, issue, and denial cases for DOD officer and enlisted cases. A total of 2,662 observations were available for analysis; in the denial category, 34 observations from the 2,662 were missing values. In Figure 9, officers in DOD organizations have an issue rate of 30.7 percent, compared with an enlisted rate of 41.1 percent. There are several possible explanations for the 10 percent difference in issue rates. For example, the differences may be due to a pre-screening bias; that is, officers are more thoroughly screened than enlistees upon entrance into the military. The denial rate for officers is 1.96 percent, compared with an enlisted rate of 2.11 percent. This difference of .15 percent is not statistically significant.

C. VARIABLE CORRELATION

Prior to conducting the logit regression, a correlation matrix of the independent variables was created to examine the relation between these variables. Correlations are considered perfect if the correlation value is 1 or -1 while a value of 0 indicates no statistical correlation at all. In regression analysis, it is desirable to have correlations as close to zero as possible [Ref. 3, pg. 19]. Correlations approaching +/- 1 have the same characteristics as another independent variable, while those that have values approaching zero are independent of each other. The variables that are closely correlated to other independent variables should either be dropped from the equation or be given a non-linear mathematical form if the correlations are considered too severe. Correlations above 0.5 are considered to be severe. Correlations between 0.05 and 0.5 may be considered

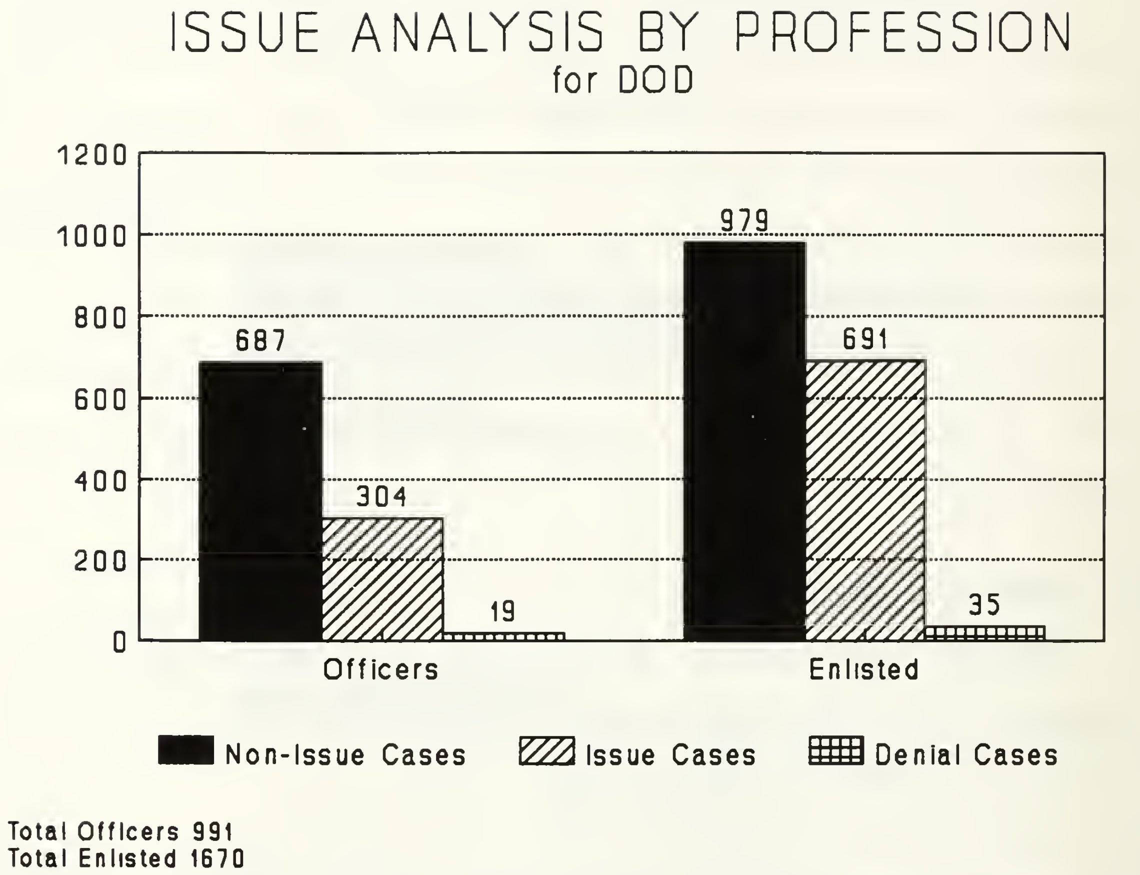


Figure 7. **Issue Analysis by Officer/Enlisted Status for DOD Source: 1990 Survey of Adjudicators**

significant and may require altering the form of the equation. Correlations below the 0.05 are not considered as having a great impact on the analysis.

There is probably some correlation between the interview and record check questions, which essentially cover the same investigative area. For example, it is anticipated that the medical interview would be closely correlated with the medical record check, since information obtained from one area would also be found in the other one. This type of correlation is anticipated to comprise less than 6 percent of the total matrix, since only 8 out of the total 162 possible individual correlations derived in the correlation matrix fall into this category. Accordingly, these variables do not require additional attention.

In Table III, correlations are presented for all independent variables expected to be used. While some of these correlations appear to be significant, the equation form will be log-linear (as discussed in Chapter III). Therefore, the impact of these linear correlations will be reduced. Another argument for using these variables in the regression can be found in the preceding analysis, which indicated the importance of the information provided by various sources.

TABLE III. CORRELATION COEFFICIENT MATRIX
PROB. {R}=0 / N = 6,797

VARIABLES*	PSQ1	INTVW1A	INTVW1B	INTVW1C	INTVW12	INTVW13
PSQ1	1.000	.4162	.2181	.5356	.1351	.0455
	.000	.0001	.0001	.0001	.0001	.0002
INTVW1A		1.0000	.1960	.0084	.1683	.1563
		.0000	.0001	.4902	.0001	.0001
INTVW1B			1.0000	.1620	.0557	.1190
			.0000	.0001	.0001	.0001
INTVW1C				1.0000	.0933	.0760
				.0000	.0001	.0001
INTVW12					1.0000	.4270
					.0000	.0001
INTVW13						1.0000
						.0000

Variables*

	PSQ1	INTVW1A	INTVW1B	INTVW1C	INTVW12	INTVW13
INTVW14	.0455	.0909	.0440	.0163	.2571	.3064
	.0002	.0001	.0003	.1795	.0001	.0001
INTVW15	.0915	.0392	.1194	.0860	.0702	.1154
	.0001	.0012	.0001	.0001	.0001	.0001
INTVW16	.0775	.1234	.0970	.0211	.2662	.3114
	.0001	.0001	.0001	.0826	.0001	.0001
INTVW17	.0283	.0671	.0019	.0259	.2791	.2178
	.0195	.0001	.8758	.0331	.0001	.0001
INTVW19	.0138	-.0206	-.0457	-.0084	.0893	.0741
	.2550	.0895	.0002	.4911	.0001	.0001
RCCK11	.2119	.1801	.1072	.0279	.1179	.1250
	.0001	.0001	.0001	.0213	.0001	.0001
RCCK12	.1104	.1486	.1277	.0358	.0868	.1265
	.0001	.0001	.0001	.0032	.0001	.0001
RCCK13	.1078	.1488	.1685	.0661	.1101	.0858
	.0001	.0001	.0001	.0001	.0001	.0001
RCCK14	.0533	.0548	.1066	.0208	.1632	.1044
	.0001	.0001	.0001	.0871	.0001	.0001
RCCK15	.0576	.0799	.0444	.0027	.2452	.1789
	.0001	.0001	.0002	.8526	.0001	.0001
RCCK16	.0334	.0495	.0330	.0031	.1709	.1053
	.0058	.0001	.0067	.8015	.0001	.0001

	INTVW14	INTVW15	INTVW16	INTVW17	INTVW19	RCCK11
INTVW14	1.0000					
	.0000					
INTVW15	.0553	1.0000				
	.0001	.0000				
INTVW16	.3072	.1122	1.0000			
	.0001	.0001	.0000			
INTVW17	.2417	.0806	.2654	1.0000		
	.0001	.0001	.0001	.0000		

	INTVW14	INTVW15	INTVW16	INTVW17	INTVW19	RCCK11
INTVW19	.0400	.1155	.1221	.1529	1.0000	
	.0010	.0001	.0001	.0001	.0000	
RCCK11	.1160	.0228	.1650	.1630	.0627	1.0000
	.0001	.0600	.0001	.0001	.0001	.0000
RCCK12	.1186	.3740	.1385	.1081	.0914	.0739
	.0001	.0001	.0001	.0001	.0001	.0001
RCCK13	.0965	-.0080	.0417	.0738	-.0546	.0738
	.0001	.5112	.0006	.0001	.0001	.0001
RCCK14	.1374	.0934	.3627	.2027	.1393	.2238
	.0001	.0001	.0001	.0001	.0001	.0001
RCCK15	.2105	.0805	.1952	.3182	.1066	.2217
	.0001	.0001	.0001	.0001	.0001	.0001
RCCK16	.3035	.0613	.1770	.1531	.1434	.2324
	.0001	.0001	.0001	.0001	.0001	.0001

Variables*	RCCK12	RCCK13	RCCK14	RCCK15	RCCK16
RCCK12	1.0000				
	.0000				
RCCK13	-.0070	1.0000			
	.5628	.0000			
RCCK14	.1049	.1128	1.0000		
	.0001	.0001	.0000		
RCCK15	.1025	.1392	.2261	1.0000	
	.0001	.0001	.0001	.0000	
RCCK16	.1230	.1252	.3372	.4116	1.0000
	.0001	.0001	.0001	.0001	.0000

* Note: These variable are described in TABLE I.

D. ANTICIPATED INDEPENDENT VARIABLE VALUES

In reviewing previous literature, regression analysis had not been utilized. Although the effect of each variable has not been estimated, the relative frequency of the independent variables has been calculated. From the literature review conducted in Chapter II, a basic understanding of the relevant variables is described and gives insight as to which independent variables should be significant in a logit regression. From these significant variables, hypothesized signs/effects were estimated. Table IV displays the estimated effects of the independent variables and the coding of each independent variable.

TABLE IV. VARIABLE ESTIMATED SIGNS AND CODING

INDEPENDENT VARIABLE*	SIGN	CODING DESCRIPTION
PSQ1	(-)	Continuous, 0-4
INTVW1A	(-)	Continuous, 0-4
INTVW1B	(-)	Continuous, 0-4
INTVW1C	(-)	Continuous, 0-4
INTVW12	(+)	Continuous, 0-4
INTVW13	(-)	Continuous, 0-4
INTVW14	(+)	Continuous, 0-4
INTVW15	(-)	Continuous, 0-4
INTVW16	(-)	Continuous, 0-4
INTVW17	(+)	Continuous, 0-4
INTVW19	(+)	Continuous, 0-4
RCCK11	(-)	Continuous, 0-4
RCCK12	(-)	Continuous, 0-4
RCCK13	(-)	Continuous, 0-4
RCCK14	(-)	Continuous, 0-4
RCCK15	(+)	Continuous, 0-4
RCCK16	(+)	Continuous, 0-4

* Note: Variables are described in TABLE 1.

It should be noted that the independent variables were initially coded in the survey as -2 to 2, with 0 as the midpoint and, therefore, a neutral selection. Recoding of these variables by increasing the values by 2 was necessary to perform mathematical calculations. Accordingly, 2 became the midpoint and the neutral value; otherwise, no other transformations of the independent variables were required.

The variables associated with predicted positive signs were estimated to be either insignificant to the analysis, or the results of the investigation yielded no derogatory information. The negatively predicted signs are estimated to result in the presence of an issue.

E. THE LOGIT MODEL

1. Model Comparisons

An initial linear regression was calculated for three different cases in order to compare the non-DOD and DOD models. These models were estimated linearly to analyze the differences between the organizations, since Chow testing procedures require the use of linear regression forms. The Chow test is used to determine if two linear regression equations derived from an overall equation are similar to the overall equation; if the two equations are dissimilar, separate analysis of each is dictated [Ref. 3, pp. 443-6]. The test is performed on linear regression equations and cannot be used in the logit regression model. Along with theory, analyzing the logit model in the linear form for Chow testing purposes gives preliminary insight as to equation differences.

The initial model or combined model included both the DOD and non-DOD organizations. The second model considered only the non-DOD organization, while the third considered only the DOD organization. These regressions were calculated to verify the initial hypothesis that differences exist within the different organization clearance programs. The formula for the Chow test is:

$$F = \frac{S5/k}{S4 / (N1 + N2 - 2k)}$$

where:

S5 = S1 - S4
S4 = S2 + S3

S1 = 1325.07197 (Residual Sum of Squares (RSS) for the combined model)
k = 17 (number of parameters for the combined model)
S2 = 233.01503 (RSS for the non-DOD model)
S3 = 88.66714895 (RSS for the DOD model)
N1 + N2 - 2k = 3807 + 2988 - 2(17) = 6761 (N is the number of observations for the two regression models)
S4 = 321.68217
S5 = 1003.3898

S5/k = 59.022929
S4/(N1+N2-2k) = .047579

F = 1255

At the 1-percent level of significance:

F(crit), (17, infinity) = 2.65

Therefore, it is concluded that the computed F is significant at the 1 percent level and the two regression equations are not equal. This result gives justification to consider the different models as significant.

2. Non-DOD Logit Model

The non-DOD logit model was calculated with the dependent variable identified as "Issue." The resulting values were separated into four categories: significant at the 1-percent level, significant at the 5-percent level, significant at the 10-percent level, and not significant. Table V contains the result of the logit regression analysis for the non-DOD organization.

TABLE V. NON-DOD LOGIT RESULTS
DEPENDENT VARIABLE: ISSUE

Variable*	Beta	Chi-Square	Level of Significance (Percent)
Intercept	12.516	16.80	
PSQ1	-.976	56.21	1
INTVW1A	-1.319	22.28	1
INTVW1B	-.619	4.33	5
INTVW1C	-1.471	188.42	1
INTVW12	.743	7.21	1
INTVW13	-.771	6.50	1
INTVW14	-.155	.19	n.s.
INTVW15	-.383	1.04	n.s.
INTVW16	-.753	5.29	5
INTVW17	1.579	10.15	1
INTVW19	-2.067	3.38	10
RCCK11	-1.033	5.11	5
RCCK12	.127	.05	n.s.
RCCK13	-1.314	39.18	1
RCCK14	1.049	4.43	5
RCCK15	.316	.18	n.s.
RCCK16	.329	.23	n.s.

n.s. - indicates variable is not significant
* Variables are described in TABLE 1.

3,808 Observations
2,152 without Issues Identified
1,656 with Issues Identified

It can be seen in Table V, it becomes apparent that the variables PSQ1, INTVW1A, INTVW1C, INTVW12, INTVW13, INTVW17, AND RCCK13 are statistically significant at the 1 percent level. Variables INTVW1B, INTVW16, RCCK16 AND RCCK14 are significant at the 5 percent level. INTVW19 is significant at the 10 percent level, and the remaining variables are not significant. These insignificant variables should remain in the equation since they are determinants of issue identification.

A comparison of the hypothesized signs in Table IV with the resultant signs for non-DOD shows that all but six of the have the same sign. INTVW12, INTVW17, INTVW19, and RCCK14 are the only significant variables that did not have the predicted sign. INTVW14 and RCCK12, which were both insignificant, also had incorrectly predicted signs.

A classification table of the non-DOD organization was calculated to verify the model's ability to predict for the data set. In this analysis, the model's ability to predict the presence of an issue case was tested against the actual amount of issue cases encountered in the data set. A positive predicted issue is a case that the model predicts to have an issue. A negative predicted issue is a case that the model predicts to not have an issue. Actual/True negative issue is an actual case without an issue. Actual/True positive issue is an actual case with an issue. In the optimum situation, the model would predict all actual negative issue cases as negative and would predict all actual positive issue cases as positive. Table VI contains the classification table for the non-DOD organization.

TABLE VI. CLASSIFICATION TABLE

	Predicted Issues		
	Negative	Positive	Total
Negative	2,146	6	2,152
Actual/True Issues			
Positive	572	1,,084	1,656
Total	2,718	1,090	3,808

Sensitivity: 65.5% Specificity: 99.7% Correct: 84.8%
False Positive Rate: .6% False Negative Rate: 21.0%

According to the data in Table VI, if the model would have classified everyone in the group as positive, it would have a correct rate of 84.8 percent. The sensitivity calculates the percentage of predicted true positives which were positive (65.5 percent). The specificity calculates the percentage of predicted true negatives which were negative (99.7 percent). The false positive rate calculates the percentage of predicted positives which were true negatives (0.6 percent). The false negative rate calculates the percentage of predicted negatives which were true positives (21 percent).

A further analysis of the non-DOD model was conducted by utilizing base-case analysis. This type of analysis is accomplished by a WBASIC computer program, in which the base case is calculated and the impact of each of the variables on the base case is computed. From this computer program, probability for each variable (*Prob*) is calculated and subtracted from the base-case probability, resulting in percent impact (*Delta*) the variable has on the model. *Beta* is the actual variable beta value derived from the logit model and *X* is the value assigned for estimation purposes. The base case for the non-DOD model is assumed to be the neutral, or the median point of 2. At this point, the variables were neither favorable or unfavorable to the individual under investigation. Calculations of the individual impact of a variable on the base case are presented in Table VII.

TABLE VII. BASE CASE ANALYSIS OF NON-DOD
The base case (-alpha - XiB) = .919504

	Selection of X=1				Selection of X=2		
Variable	Prob	Delta	Beta	X	Prob(2)	Delta(2)	X(2)
Base Case	.2851						
+ PSQ1	.1307	-.1544	-.9757	1	.0536	-.2314	2
+ INTVW1A	.0963	-.1887	-1.3191	1	.0277	-.2573	2
+ INTVW1B	.1767	-.1083	-.6913	1	.1036	-.1815	2
+ INTVW1C	.0839	-.2012	-1.4713	1	.0206	-.2645	2
+ INTVW12	.4561	.1710	.7433	1	.6381	.3530	2
+ INTVW13	.1557	-.1294	-.7714	1	.0785	-.2065	2
+ INTVW14	.2545	-.0306	-.1555	1	.2261	-.0590	2
+ INTVW15	.2137	-.0713	-.3830	1	.1564	-.1287	2
+ INTVW16	.1581	-.1269	-.7526	1	.0813	-.2038	2
+ INTVW17	.4591	.1741	1.5790	1	.5055	.2204	2
+ INTVW19	.0481	-.2370	-2.0662	1	.0064	-.2787	2
+ RCCK11	.1243	-.1608	-1.0327	1	.0481	-.2370	2
+ RCCK12	.3116	.0266	.1270	1	.3395	.0545	2
+ RCCK13	.0967	-.1883	-1.3145	1	.0280	-.2571	2
+ RCCK14	.3323	.0473	1.0490	1	.4647	.1796	2
+ RCCK15	.3535	.0685	.3160	1	.4286	.1435	2
+ RCCK16	.3565	.0715	.3290	1	.4350	.1499	2

Table VII combines two analyses in which computations were made for an adjudicator who selected -1 or -2 as a rating on the survey. The probabilities are the deltas for the change of the presence of an issue. As the rating changes from -1 to -2, the issue becomes more severe in the adjudicator's mind.

It must be emphasized that these probabilities can only be considered individually with the base case and cannot be considered in groups. That is, given the base case of no other variables selected, what is the effect of selecting an individual variable either in a favorable or unfavorable manner? All other variables must remain the same in the equation or *ceteris paribus*. In conducting the analysis of Table VII, the condition of *ceteris paribus* applies to each variable evaluated.

The positive variables, INTVW12 and INTVW17, were mainly answered positively on the survey and the calculation of the presence of an issue is theoretically reduced given the positive answer. The resultant probabilities do not assist in issue determination. Additionally, RCCK12, RCCK15, and RCCK16 are insignificant, and the variables are not factors in the analysis.

The variable PSQ1 (Personal Security Questionnaire) is significant at the 1-percent level, and if the adjudicator selected -1 on the survey, the probability of the presence of an issue would increase by 15 percent, ceteris paribus. In other words, an issue would be present 15 percent of the time an adjudicator selects -1 with all other variables unchanged from zero. An issue would also be present 23 percent of the time an adjudicator selects -2 for PSQ1, ceteris paribus.

The variable INTVW1A (Initial Interview) is significant at the 1-percent level, and if an adjudicator selected -1 (or -2) on the survey, the probability of the presence of an issue would increase by 19 percent (25 percent).

The variable INTVW1B (Follow-up Interview) is significant at the 5-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 10 percent (18 percent).

The variable INTVW1C (Polygraph Interview) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 20 percent (26 percent).

The variable INTVW12 (Listed Character References) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 17 percent (35 percent).

The variable INTVW13 (Developed Interview Sources) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 13 percent (21 percent).

The variable INTVW14 (Residence Interview Sources) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 3 percent (5 percent).

The variable INTVW15 (Medical Interview Sources) is not significant, and if an adjudicator selected -1 (-2), on the survey, the probability of the presence of an issue would increase by 7 percent (12 percent).

The variable INTVW16 (Employment Interview Sources) is significant at the 5-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 13 percent (20 percent).

The variable INTVW17 (Education Interview Sources) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 17 percent (22 percent).

The variable INTVW19 (Ex-Spouse and Relative Interview Sources) is significant at the 10-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 24 percent (27 percent).

The variable RCCK11 (Local Agency Checks) is significant at the 5-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 16 percent (23 percent).

The variable RCCK12 (Medical Record Checks) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 3 percent (5 percent).

The variable RCCK13 (Financial Record Checks) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 19 percent (25 percent).

The variable RCCK14 (Employment Record Checks) is significant at the 5-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 14 percent (17 percent).

The variable RCCK15 (Education Record Checks) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 7 percent (14 percent).

The variable RCCK16 (Residence Record Checks) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 7 percent (15 percent).

3. DOD Logit Model

The DOD logit model, as in the non-DOD model, was calculated with the dependent variable identified as "Issue". Once again, the resulting values are shown at the 1-, 5-, and 10-percent levels of statistical significance along with the not significant level. Table VIII shows the results of the logit regression analysis for the DOD organization.

TABLE VIII. DOD LOGIT RESULTS
DEPENDENT VARIABLE: ISSUE

Variable	Beta	Chi-Square	Level of Significance (Percent)
Intercept	17.287	.62	
PSQ1	-.658	59.45	1
INTVW1A	-.175	3.38	10
INTVW1B	- .973	18.85	1
INTVW1C	-3.038	.08	n.s.
INTVW12	.308	2.50	n.s.
INTVW13	-.019	.01	n.s.
INTVW14	.314	1.38	n.s.
INTVW15	-.765	3.05	10
INTVW16	-.704	13.43	1
INTVW17	1.649	13.23	1
INTVW19	-2.427	5.15	5
RCCK11	-.562	11.24	1
RCCK12	-.773	4.42	5
RCCK13	-1.041	53.67	1
RCCK14	-1.074	8.97	1
RCCK15	.411	.76	n.s.
RCCK16	.492	1.07	n.s.

n.s. - indicates variable is insignificant

2,989 Observations
1,867 without Issues Identified
1,122 with Issues Identified

In the DOD model, the variables PSQ1, INTVW1B, INTVW16, INTVW17, RCCK11, RCCK13, and RCCK14 are significant at the 1-percent level. The variables INTVW19 and RCCK12 are significant at the 5-percent level. The variables INTVW1A and INTVW15 are significant at the 10-percent level and the remaining variables are not statistically significant in issue determination.

Comparing the hypothesized signs in Table IV to the resultant signs for the DOD, all but one of the significant variables is found to have the same sign. INTVW19, which is at the 5-percent level of significance, is the only significant variable that did not have the predicted sign.

Next, a classification table of the DOD organization was calculated to verify the DOD model's ability to predict for the given data set. Table IX contains the classification table for the DOD organization.

TABLE IX. CLASSIFICATION TABLE FOR DOD

	Predicted Values		
	Negative	Positive	Total
Negative	1,863	4	1,867
Actual/True Issues			
Positive	606	516	1,122
Total	2,469	520	2,989

Sensitivity: 46.0% Specificity: 99.8% Correct: 79.6%
False Positive Rate: .8% False Negative Rate: 24.5%

As seen in Table IX, if the model would have classified everyone in the group as positive, it would have a correct rate of 79.6 percent. The sensitivity calculates the percentage of predicted true positives which were positive (46.0 percent). The specificity calculates the percentage of predicted true negatives which were negative (99.8 percent). The false positive rate calculates the percentage of predicted positives which were true negatives (0.8 percent). The false negative rate calculates the percentage of predicted negatives which were true positive (24.5 percent).

A further analysis of the DOD model was conducted with the use of the base case analysis (as demonstrated in the non-DOD model). Table X contains the values utilized in the computation.

TABLE X. BASE CASE ANALYSIS FOR DOD
The base case (-alpha - XiB) = .783407

	Selection of X=1				Selection of X=2		
Variable	Prob	Delta	Beta	X	Prob(2)	Delta(2)	X(2)
Base Case	.3136						
+ PSQ1	.1913	-.1223	-.6581	1	.1091	-.2045	2
+ INTVW1A	.2772	-.0364	-.1749	1	.2436	-.0700	2
+ INTVW1B	.1472	-.1663	-.9730	1	.0613	-.2523	2
+ INTVW1C	.0214	-.2922	-3.0379	1	.0010	-.3125	2
+ INTVW12	.3834	.0699	.3084	1	.4585	.1449	2
+ INTVW13	.3095	-.0041	-.0189	1	.3055	-.0081	2
+ INTVW14	.3847	.0711	.3137	1	.4611	.1475	2
+ INTVW15	.1753	-.1383	-.7651	1	.0900	-.2236	2
+ INTVW16	.1842	-.1293	-.7045	1	.1004	-.2131	2
+ INTVW17	.5038	.1902	1.6489	1	.5240	.2104	2
+ INTVW19	.0388	-.2748	-2.4272	1	.0035	-.3100	2
+ RCCK11	.2066	-.1070	-.5621	1	.1292	-.1843	2
+ RCCK12	.1741	-.1395	-.7733	1	.0887	-.2249	2
+ RCCK13	.1389	-.1747	-1.0409	1	.0539	-.2597	2
+ RCCK14	.1350	-.1786	-1.0743	1	.0506	-.2630	2
+ RCCK15	.4082	.0946	.4120	1	.5101	.1966	2
+ RCCK16	.4276	.1141	.4919	1	.5499	.2364	2

The positive variable INTVW17 is significant, but the responses for the survey were mostly positive and did not result in issues being detected. The other positive variables were insignificant and do not affect the overall analysis. Again, the intent is to measure the impact of a negatively selected value for *X*, thereby changing the negative probabilities to positive and giving the change in the probability of detecting an issue. The condition of *ceteris paribus* also applies to each analysis of the every variable.

The variable PSQ1 (Personal Security Questionnaire) is significant at the 1-percent level, and if the adjudicator selected -1 on the survey, the probability of the presence of an issue would increase by 12 percent, ceteris paribus. In other words, an issue would be present 12 percent of the time an adjudicator selects -1 with all other variables unchanged from zero. An issue would also be present 20 percent of the time an adjudicator selects -2 for PSQ1, ceteris paribus.

The variable INTVW1A (Initial Interview) is significant an the 10-percent level, and if an adjudicator selected -1 (or -2) on the survey, the probability of the presence of an issue would increase by 3 percent (7 percent).

The variable INTVW1B (Follow-up Interview) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 16 percent (25 percent).

The variable INTVW1C (Polygraph Interview) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 29 percent (31 percent).

The variable INTVW12 (Listed Character References) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 7 percent (14 percent).

The variable INTVW13 (Developed Interview Sources) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by .4 percent (.8 percent).

The variable INTVW14 (Residence Interview Sources) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 7 percent (15 percent).

The variable INTVW15 (Medical Interview Sources) is significant at the 10-percent level, and if an adjudicator selected -1 (-2), on the survey, the probability of the presence of an issue would increase by 13 percent (21 percent).

The variable INTVW16 (Employment Interview Sources) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 13 percent (21 percent).

The variable INTVW17 (Education Interview Sources) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 19 percent (21 percent).

The variable INTVW19 (Ex-Spouse and Relative Interview Sources) is significant at the 5-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 27 percent (31 percent).

The variable RCCK11 (Local Agency Checks) is significant at the 1-percent level and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 10 percent (18 percent).

The variable RCCK12 (Medical Record Checks) is significant at the 5-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 13 percent (22 percent).

The variable RCCK13 (Financial Record Checks) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 17 percent (26 percent).

The variable RCCK14 (Employment Record Checks) is significant at the 1-percent level, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would increase by 18 percent (26 percent).

The variable RCCK15 (Education Record Checks) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 9 percent (20 percent).

The variable RCCK16 (Residence Record Checks) is not significant, and if an adjudicator selected -1 (-2) on the survey, the probability of the presence of an issue would decrease by 11 percent (24 percent).

4. Model Comparisons

A comparison was made of the variables in the two models. Understanding that the two models are different, comparing the variables gives an idea as to which are common, which variables are similar and which variables are different. While this comparison (Table XI) is not explanatory in nature, it does highlight the differences in investigative processes by non-DOD and DOD organizations. Table XI shows the significance of each variable within the two organizations. This gives an illustration of the "so-called significant" variables important to the investigative process used by the two organizations. It can be seen here that some variables have the same level of significance, indicating the importance of the source to both organizations.

TABLE XI. LEVELS OF SIGNIFICANCE FOR NON-DOD AND DOD VARIABLES

Variables with High Levels of Significance (Percent)

Variable	non-DOD	DOD
PSQ1	1%	1%
INTVW17	1%	1%
RCCK13	1%	1%

Variables with Lower Levels of Significance (Percent)

Variable	non-DOD	DOD
INTVW1A	1%	5%
INTVW1B	5%	1%
INTVW16	5%	1%
INTVW19	10%	5%
RCCK11	5%	1%
RCCK14	5%	1%

Variables that are Unique to NON-DOD (Percent)

Variable	non-DOD	DOD
INTVW1C	1%	n.s.
INTVW12	1%	n.s.
INTVW13	1%	n.s.

Variables that are Unique to DOD (Percent)

Variable	non-DOD	DOD
INTVW15	n.s.	10%
RCCK12	n.s.	5%

Variables that are Not Significant (Percent)

Variable	non-DOD	DOD
INTVW14	n.s.	n.s.
RCCK15	n.s.	n.s.
RCCK16	n.s.	n.s.

n.s. - indicates variable is insignificant

Variables that have high levels of significance for issue detection for both the non-DOD and DOD models include PSQ1 (Personal Security Questionnaire), INTVW17 (Education Interview Sources), and RCCK13 (Financial Record Checks). Variables that are similar at lower levels of significance in issue detection for both models are INTVW1A (Initial

Interview), INTVW1B (Follow-up Interview), INTVW16 (Employment Interview Sources), INTVW19 (Ex-Spouse and Relative Interview Sources), RCCK11 (Local Agency Checks) and RCCK14 (Employment Record Checks). Variables that are unique for issue detection in the non-DOD model are INTVW1C (Polygraph Interviews), INTVW12 (Listed Interview Sources), and INTVW13 (Developed Interview Sources). Variables that are unique for issue detection in the DOD model are INTVW15 (Medical Interview Sources) and RCCK12 (Medical Record Checks). Variables which are not significant in detecting issues for both models are INTVW14 (Residence Interview Sources), RCCK15 (Education Record Checks) and RCCK16 (Residence Record Checks).

While these comparisons illustrate the differences in the techniques used to determine an issue, they also indicate the sources that are most common to both investigative procedures and the sources that are not significant when attempting to determine an issue.

V. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The primary objective of this analysis was to determine (from a survey provided by the adjudicators) if there are measurable differences in the procedures of non-DOD and DOD organizations concerning issue case development during a special background investigations. The following conclusions are made based on a frequency analysis, a logit regression, and base case analysis based on the results from the study.

1. Frequency Analysis

The data suggest that there are minor differences in the issue and denial rates between the non-DOD and DOD organizations. Persons in the DOD organization have only a .2 percent higher denial rate than those of the non-DOD organization.

Persons in the non-DOD organization are more likely to have drug abuse and foreign connection/preference issues than their counterparts in DOD. DOD employees, on the other hand, are more likely to have alcohol, financial, criminal and "other" issues surface during the investigation.

While the non-DOD organization has a lower issue rate for women than men, the DOD issue rate for women is 6.7 percent higher than for men. Women have a slightly higher denial rate than men in both the non-DOD and DOD organizations by at least .6 percent.

Non-DOD and DOD organizations both have a very high incidence of drug issues associated with men and women.

In the non-DOD organization, women have a higher incidence than men of financial issues arising as a result of the investigation. At the same time, men are more likely than women to have alcohol and criminal issues arise during the investigation.

In the DOD organization, women have higher incidence of financial, emotional/mental, and sexual-related issues, while men tend to have significant issues in the alcohol and criminal categories.

The military's enlisted personnel are 10 percent more likely than officers of having an issue detected; however, the clearance denial rates for officers (1.96 percent) and enlisted personnel (2.11) are similar.

2. Logit Analysis

Differences in the investigative process between the non-DOD and DOD organizations exist and are statistically significant. This provides the basis for estimating two different logit regressions. Variables for the two organizations were estimated to be the same, similar, unique, or insignificant to the investigative process.

The non-DOD and DOD investigative processes both rely heavily upon the personnel security questionnaire, education interviews, and financial record checks as sources of information in the investigative process. These sources were found to be highly significant to the investigative process.

Investigations of personnel in the non-DOD and DOD organization rely upon the initial interview, follow-up interview, employment interviews and record check, ex-spouse/ relative interview, local agency checks, and residence checks. Various levels of significance are found for these sources, but their impact is slightly less significant for both organizations even though the impact on an individual organization is significant in determining issues.

Only the non-DOD organization relies upon polygraphs, listed interview sources, and developed interview sources; consequently, these sources are significant only to the non-DOD model. Only the DOD organization relies upon medical interviews and medical record checks and similarly, these sources are significant in the DOD model.

The non-DOD and DOD organization have not had much success with the residence interviews, education record checks, or residence record checks in discovering issues. These sources are apparently not the best area to expend time and effort in conducting a special background investigation.

The logit analysis suggest that the two organizations should compare investigative processes to see which is the most effective in determining an issue, given the fact that both are conducting the same type of investigation.

3. Base Case Analysis

Each organization was analyzed from the standpoint of determining an issue from a neutral case when differing negative values for the importance of the source were selected. This analysis provided the percent impact of each individual variable on the neutral case, and the probability of an issue being present. The polygraph examination was significant and had the highest probability of detecting an issue determination in both organizations when it was administered. Interviews appeared to be more significant in issue detection for non-DOD, while record checks appeared to be more significant in issue detection for DOD

B. RECOMMENDATIONS

Data from the survey of adjudicators provided important insights into the differences between the non-DOD and DOD organizations. However, further analysis of the data set can be conducted. Specific recommendations include:

1. Continued research into relationships of variables between the two organizations.
2. Research concerning the differences between the two organizations to determine the optimal method of investigative procedures within each.
3. Extended analysis by regression, including weighting variables by length of coverage or other means.

Several sources of information were found to be relatively insignificant, and others were markedly more effective. All sources should still be used in the investigative process; but the analysis suggests that greater efficiency could be achieved by emphasizing the more productive methods for detecting issues. This would also assist in detecting issues quicker in the investigative process.

Consideration should be given to expanding the scope of a future survey to include more demographic information, including ethnicity, paygrade, and location of the investigation area.

Finally, it is recommended that a larger and more complete study be conducted of specific groups within the non-DOD and DOD organizations. This new information could help to further refine the investigative process, making it more efficient and effective in identifying issue cases.

APPENDIX A

Instructions for SBI Adjudication Summary Form

Background

The DCI Personnel Security Working Group (PSWG) is examining the investigative requirements of the DCID 1/14 with a large scale study of the Special Background Investigation (SBI). The study is designed to evaluate the productivity of investigative sources in developing the necessary information to determine eligibility for access to Sensitive Compartmented Information (SCI). The objectives of the study are to:

A. Determine the productivity of sources of information in personnel security investigations.

B. Evaluate the length of coverage needed to determine with reasonable probability that an indication of significant adverse information will be developed.

It is recognized that when significant information is revealed an inquiry is normally expanded to completely resolve an issue. The purpose of the present study is to determine the minimum period of coverage needed to reveal a problem.

Productivity will be evaluated in terms of frequency and importance (usefulness) of the information. The data for this study will be recorded by adjudicators on machine-scannable, case summary forms after an initial determination has been reached. The following instructions provide directions to complete these summaries.

General Directions

1. Complete a form for each adjudicated case where the investigation was completed within the past year. Forms should be prepared for all cases, whether or not significant adverse information was revealed. Do not complete a form on a case where the current investigation was prompted by a complaint or allegation, or on a routine "up-date" or "bring-up" case.

2. The form consists of two parts. Information regarding general background characteristics of the candidate is recorded on page 1, and information referring to investigative sources is recorded on pages 2 through 4. Investigative sources are evaluated only when adverse information has been developed. A maximum of three issues may be recorded. In multiple issue cases adjudicators are asked to select the most important issues for review.

3. There are two possible ratings for investigative sources:

(1) Length of coverage to reveal adverse information
(2) Usefulness of adverse and positive information in making a determination.

Ratings for length of coverage refer to negative information only.

Ratings for usefulness of information reflect the fact that the same type of source can provide both favorable and unfavorable information. Adjudicators are asked to synthesize the information from the unfavorable sources within an investigative category to provide a rating for the negative or adverse information and to synthesize the information from the favorable sources within the same investigative category to provide a rating for the positive or non-adverse information.

4. Use a No. 2 pencil to darken the appropriate spaces on the face of the form. Erasures should be clean.

PART I:

Specific Directions

1. Case No.: Write in the case number according to your own system. Do not use an identifiable number, such as a Social Security number, but rather some random number from a key list, by which the true identity of the case can be traced if necessary. Right justify the entry.

2. Agency: For the purpose of this project, each participating agency will be assigned a specific letter identification, which should be used for all forms submitted by that agency.

3. Year of Birth: Mark the last two digits of the year in which the subject was born.

4. Gender: Self explanatory

5. Marital Status: Self explanatory

6. Education: Indicate the highest education level of the subject.

7. Job Category: Indicate the category that best represents the candidates job position. The following provides general descriptions for these categories. If the position is **Unknown,** mark accordingly.

Professional	-project managers, scientists, analysts, military officers,etc.
Technical	-persons involved in the manufacture, operation or maintenance of equipment, and military enlisted personnel.
Clerical	-persons involved in clerical duties.
Service	-charforce, security guards, and other persons who need access because they are in the vicinity of sensitive information but do not actually handle information or equipment, etc.

8. Type of Employee: Indicate whether the candidate is military, Federal civilian or industrial contractor.

9. Previous Investigation: Complete this section **only** if the subject of the present investigation was also the subject of a prior inquiry.

ENAC: use this category for the abbreviated NAC which consists only of a records review of national agencies.
NAC: use this category for the NACI, the national agency records check plus written inquiries.
BI: use this category for background investigation with a 5 or 7 year period of coverage.
SBI: use this category for background investigation meeting or exceeding DCID-1/14 standards.

If there was more than one previous inquiry, indicate only the most recent, extensive investigation.

10. Year of Previous Investigation: Last two digits of the year the previous inquiry was completed.

11. Purpose of Present Investigation: Identify the intended purpose of the current adjudication.

12. Initial Adjudication Recommendation: Indicate the adjudication agency's initial recommendation before due process or candidate rebuttals affected the determination.

Granted: If the candidate meets DCID 1/14 standards, mark the "granted" block.

Denied: If the candidate fails to meed DCID 1/14 standards, mark the "denied" block.

For cases which reveal no significant or adverse information, the form is complete at this point.

PART II: Issues

General Information:

If significant or adverse information was developed by the investigation the adjudicator is asked to review the entire case, even though clearance might have been granted. The purpose of the review is to:

(1) Identify the adverse issue(s) which were revealed in the case.
(2) Indicate the length of coverage that was required to find sources knowledgeable about the issue.
(3) Evaluate the usefulness of information provided by the investigative sources in reaching the determination.

The adjudicator is requested to evaluate each adverse issue separately.

It is realized that cases with multiple issues will be problematic and will require some arbitrary distinctions: Different issues may seem equally significant and the same source may provide different amounts of useful information about separate issues. It is suggested that adjudicators evaluate only the sources relevant to the specific issue and then re-evaluate the relevant sources for the next issue, and so on. Judgement calls are expected.

The most significant issue should be evaluated as Issue 1, the next most serious issue as issue 2, etc. Space has been provided for a maximum of three issues under the assumption that in any given case three different types of adverse data will probably be more than sufficient for a decision.

Specific Directions

A. General Category: The accompanying sheet lists the general categories of issues found Appendix A, DCID 1/14. Select the most appropriate general category which describes issue being evaluated. If no category seems appropriate, use "L-OTHER" and explain briefly at the bottom of the form. Any issue, no matter how minor, should be evaluated.

B. Years Ago: This measure records the history of a single issue. The purpose is to define the most recent and most distant occurrences of the issue that were revealed in the investigation. The time frame of the issue may very well exceed the scope of the SBI. (You may want to wait until the rest of the entries have been completed before filling out this entry.)

Detailed guidelines are as follows:

(1) If the issue refers to a single incident, compute the number of years to the occurrence of the incident and mark the highest appropriate block.
(2) If the issue refers to a **series of similar incidents**, compute the number of years to the first occurrence of the issue and to the most recent occurrence. Mark both the first and last occurrence in the appropriate blocks.
(3) If the issue refers to a character trait indicate when the trait first appeared and when it last appeared. Mark the appropriate block(s).

C. Was Issue in Previous Investigation: Indicate if the issue was present in the previous investigation. This block should be marked **only** if a previous investigation has been conducted.

If the issue was present in a previous investigation, then the previous and present investigation should be evaluated concurrently in rating the productivity of investigative sources.

Source Ratings

General Information

Investigative sources are grouped into the general categories of PSQ, Interviews, Record Checks and National Agency Checks (NAC). These headings are subdivided into the pertinent investigative sources. To rate these sources the adjudicator will need to consider all of the information provided by the same type of source.

Up to three (3) ratings may be required to evaluate an investigative source. The evaluations are recorded under the headings of "Importance of Information" (two ratings), and "Length of Coverage".

Summarize source productivity according to the following guidelines.

Importance of source information. Mark the appropriate block to indicate the importance of the information provided by a group of sources. Provide ratings for the importance of both the adverse and non-adverse material provided by the sources.

Use the following scale for making your ratings.

[-2] = Negative (adverse) information, very important in making an adjudication.
[-1] = Negative (adverse) information, moderately important in making an adjudication
[0] = Information (negative or positive) not important in making an adjudication
[+1] = Information (non-adverse) moderately important in making an adjudication
[+2] = Information (non-adverse) very important in making an adjudication.

For additional assistance in rating the importance of the information the following definitions make a distinction between very important and moderately important.

Very important information would be indicated when sources provide information that proves the presence of the issue.

Moderately important information would be indicated when sources provide information that indicates the existence of an issue.

The adjudicator is reminded that for the same general type of source, e.g., residence interviews, some sources may provide adverse information and other sources may provide favorable information. When this occurs, both types of information need to be rated separately for their usefulness in making a determination. For example, one grouping of residence interviews may have provided adverse information that was very important in making the adjudication while another group of residence interviews may have provided favorable information that was moderately important in the adjudication. In this instance the line for residence interviews (E.,4) would have two markings: -2 and +1.

Length of coverage. **This scale will only be completed for those sources who provided adverse information.** Indicate the period of time in the subject's history when sources were knowledgeable about the issue. For instance, if a local agency check revealed an incident that occurred five (5) years ago, mark the space "5" for Record Checks(F), Local Agency (1). If the same issue was contained in an employment record check for employment three (3) years ago, mark the space "3" for Record Checks (F), Employment (4). Finally, if same issue is also known to two or more sources, e.g., two residence checks, indicate the **most recent knowledgeable source.** Perform this determination for all general sources knowledgeable of the issue.

The type of rating and the location of the rating on the form is summarized in the following table:

Rating	Location
Importance of information from unfavorable sources	"Importance of Info" -2, very important -1, moderate
Importance of information from favorable sources	"Importance of Info" +2, very important +1, moderate
Length of coverage needed to find unfavorable sources	"Length of Coverage" minimum number of years source had knowledge of issue.

Sources of Information:

Sources are listed under three (3) categories. Definitions and instructions for these sources follow:

D. PSQ: Personal Security Questionnaire.

Rate the importance of the information contained in the PSQ. Also indicate whether the subject volunteered the information considered as the issue (Admit) or attempted to conceal the information (Falsify). If the subject was not obliged to volunteer the information, leave this field blank.

Note: Only evaluate the information contained in the PSQ. If a subject has withheld or falsified information, evaluate the falsification as a separate issue.

E. Interviews.

Evaluate the information about the issue which developed from interviews with the subject or with the following references. Where adverse information develops from these sources, indicate the minimum number of years back the source was knowledgeable about the issue. Leave blank, if no interview was conducted.

1. Subject:

a. Initial Interview: Evaluate the information about the issue contained in an initial subject interview or a pre-nomination interview. Leave blank, if there was no initial interview.

b. Follow-up Interview: Evaluate the information contained in an interview with the subject after the investigation has surfaced the issue. Leave blank, if there was no follow-up interview.

c. Polygraph Interview: Evaluate the information about the issue contained in a polygraph interview that is conducted prior to the polygraph. Leave blank, if there was no polygraph interview.

2. Listed. Listed references are the character references supplied by the subject on the PSQ.

3. Developed. Developed sources are those sources uncovered during the investigation which can not be represented as any other type of source.

4. Residence. Residence sources are those sources who have lived in proximity of the subject. This usually includes room-mates and neighbors.

5. Medical. Medical sources are those sources with professional medical knowledge about the subject. This usually includes medical doctors, nurses, and other health care providers.

6. Employment. Employment sources are those sources with knowledge about the subject's working behavior. This usually includes employers and co-workers.

7. Education. Education sources are those sources with knowledge about the subject's education behavior. This usually includes administrators, instructors, and class-mates.

8. Ex-spouse. Ex-spouses are those sources to whom subject was once married and have knowledge about subject's behavior.

9. Relatives. Relatives are those sources to whom subject is bound by affection or obligation to include cohabitants.

F. Records

Evaluate the information about the issue which developed from the following records. If information develops from any of these sources, indicate the most recent occurrence of the issue in the record. Leave blank, if the record source was not checked.

1. LAC. LAC are local agency checks. These records usually include police and court records.

2. Medical. These records pertain to the subject's medical condition.

3. Finances. These records pertain to the subject's financial condition. They may include credit reports, bankruptcy records, or other financial records.

4. Employment. These records pertain to the subject"s employment history. They may include verification of employment or reprimands in the personnel record.

5. Education. These records pertain to the subject's educational history. They may include verification of enrollment at educational institutions.

6. Residence. These records pertain to the subject's residence history. They may include landlord records or utility records which verify residence.

National Agency Checks.

Evaluate the information about the issue which developed from national agency records. Indicate the importance of all the applicable record checks. If information develops from records other than those listed, write in the records which provided the information.

7. NAC. This refers to the subject's national agency check.

8. Spouse NAC. This refers to national agency checks on subject's spouse.

9. Relative NAC. This refers to national agency checks on subject's relatives.

Remarks:

To resolve this case what additional information would you have desired?
This open ended remark section is for the adjudicator to indicate what additional information would have improved the adjudication of the case. **The remarks should apply to the case as a whole, rather than to a single issue.**

REPEAT FOR THE SECOND AND THIRD MOST SIGNIFICANT ISSUES

APPENDIX B

SBI ADJUDICATION SURVEY

Marking Instructions

- Use only a No. 2 black lead pencil.
- Read each question carefully. Make a HEAVY BLACK MARK in the oval that corresponds to your answer. Be sure to FILL THE OVAL.
- Erase cleanly any answer you may want to change.
- Please do not make any stray marks.

CORRECT MARK ○ ○ ● ○

INCORRECT MARKS ✓ ✗ ○ ◐

Use Soft Lead Pencil Only

PART I:

1. **Case Number**

Write the numbers in the boxes →

Then darken the matching ovals →

0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9

2. **Agency**

A	G
B	H
C	I
D	J
E	K
F	L

3. **Year of Birth**

19

Write the numbers in the boxes

Then darken the matching ovals

19		
	0	0
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
	9	9

4. **Gender**

○ Male
○ Female

5. **Marital Status**

○ Single
○ Married
○ Divorced
○ Separated
○ Widowed

6. **Highest Education**

○ Non-HS
○ GED
○ HS
○ Some college
○ College degree
○ Post-graduate

7. **Job Category**

○ Professional
○ Technical
○ Clerical
○ Service
○ Unknown

8. **Type of Employee**

○ Military
○ Federal Civilian
○ Contractor

9. **Previous Investigation**

○ ENAC
○ NAC
○ BI
○ SBI

10. **Year of Previous Investigation**

Write the number in the boxes

Then darken the matching ovals.

19		
	0	0
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
	9	9

11. **Purpose of Present Investigation**

○ SCI
○ TS
○ Crypto
○ Q
○ Other

12. **Initial Adjudication Recommendation**

○ Granted
○ Denied

Importance of Information

- −2 Negative (adverse) Very important in adjudication
- −1 Negative (adverse) Moderately important
- 0 Negative or Positive, Not important
- +1 Positive (Non-adverse) Moderately important
- +2 Positive (Non-adverse) Very important

ART II: ISSUE 1

A. General Category	A	B	C	D	E	F	G	H	I	J	K	L	
B. Years Ago	1	2	3	4	5	6	7	8	9	10	15	20	○ 20

C. Was Issue in Previous Investigation? ○ Yes ○ No

SOURCE RATINGS

	Importance of Information	Subject Response
D. PSQ	2 1 0 1 2	○ Admit ○ Falsify

	Importance of Information	Length of Coverage
E. Interviews		
1 Subject		
a. Initial	2 1 0 1 2	
b. Follow-up	2 1 0 1 2	
c Polygraph	2 1 0 1 2	
2 Listed	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
3. Developed	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
4 Residence	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
5. Medical	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
6 Employment	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
7. Education	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
8. Ex-Spouse	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
9. Relatives	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
F. Record Checks		
1. LAC	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
2. Medical	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
3 Finances	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
4. Employment	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
5 Education	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
6. Residence	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Adjudicative value for:	DCII	FBI	Fingerprint	SII	Other	(Please specify)
7. NAC	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0 →	
8. Spouse NAC	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0 →	
9. Relative NAC	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0 →	

To resolve this case completely, what additional information would you have desired?

____

____

____

Importance of Information

−2	Negative (adverse) Very important in adjudication
−1	Negative (adverse) Moderately important
0	Negative or Positive, Not important
+1	Positive (Non-adverse) Moderately important
+2	Positive (Non-adverse) Very important

ISSUE 2

A. General Category ○A ○B ○C ○D ○E ○F ○G ○H ○I ○J ○K ○L

B. Years Ago ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○15 ○20 ○ 20-

C. Was Issue in Previous Investigation? ○ Yes ○ No

SOURCE RATINGS

	Importance of Information	Subject Response
D. PSQ	○-2 ○-1 ○0 ○+1 ○+2	○ Admit ○ Falsify

E. Interviews

	Importance of Information	Length of Coverage
1 Subject		
a Initial	○-2 ○-1 ○0 ○+1 ○+2	
b Follow-up	○-2 ○-1 ○0 ○+1 ○+2	
c Polygraph	○-2 ○-1 ○0 ○+1 ○+2	
2 Listed	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
3 Developed	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
4 Residence	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
5. Medical	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
6 Employment	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
7. Education	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
8. Ex-Spouse	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
9. Relatives	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15

F. Record Checks

1 LAC	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
2. Medical	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
3 Finances	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
4 Employment	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
5 Education	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15
6. Residence	○-2 ○-1 ○0 ○+1 ○+2	○0 ○1 ○2 ○3 ○4 ○5 ○6 ○7 ○8 ○9 ○10 ○11 ○12 ○13 ○14 ○15

Adjudicative value for:	DCII	FBI	Fingerprint	SII	Other	(Please specify)
7 NAC	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0 →	
8 Spouse NAC	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0 →	
9 Relative NAC	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0	○-2 ○-1 ○0 →	

Continued on following pa

Importance of Information

−2	Negative (adverse) Very important in adjudication
−1	Negative (adverse) Moderately important
0	Negative or Positive, Not important
+1	Positive (Non-adverse) Moderately important
+2	Positive (Non-adverse) Very important

ISSUE 3

A. General Category A B C D E F G H I J K

B. Years Ago 1 2 3 4 5 6 7 8 9 10 15 2[illegible] 2[illegible]

C. Was Issue in Previous Investigation? ☐ Yes ☐ No

SOURCE RATINGS

	Importance of Information	Subject Response
D. PSQ	2 1 0 1 2	☐ Admit ☐ Falsify

E. Interviews

	Importance of Information	Length of Coverage
1. Subject		
a. Initial	2 1 0 1 2	
b. Follow-up	2 1 0 1 2	
c. Polygraph	2 1 0 1 2	
2. Listed	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
3. Developed	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
4. Residence	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
5. Medical	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
6. Employment	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
7. Education	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
8. Ex-Spouse	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
9. Relatives	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

F. Record Checks

1. LAC	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
2. Medical	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
3. Finances	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
4. Employment	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
5. Education	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
6. Residence	2 1 0 1 2	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Adjudicative value for:	DCII	FBI	Fingerprint	SII	Other	(Please specify)
7. NAC	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0 →	
8. Spouse NAC	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0 →	
9. Relative NAC	2 1 0	2 1 0	2 1 0	2 1 0	2 1 0 →	

When you have completed this form, please return it to your Point-of-Contact.

LIST OF REFERENCES

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4. Koucheravy, E. P., *An Analysis of Security Background Investigation Data With Relation to Subsequent Discharge*, Naval Postgraduate School, 1988.

5. Newman, R. T., *Personnel Security Survey: Investigative Scope and Adjudicative Procedures Among Intelligence Community Agencies*, Director of Central Intelligence: Investigative Standards Working Group, 1980.

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Thesis
L292 Lauff
c.1 An analysis of non-Department of Defense and Department of Defense special background investigative procedures used in developing sources that indicate the presence of an issue.

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